

ASHRAE TC 3.4
Lubrication
2026 ASHRAE Annual Meeting (Austin)

Tuesday 6/30/2026, 1:00 - 3:00 PM (CST)
JW Marriott Lone Star Ballroom D – L3

Minutes for 2026 Summer Meeting of TC 3.4

- Call to order

- *Meeting was called to order by Rashid Zakeri at 1:05 pm on 6/30/2026 where TC 3.4 scope and value statement were read out loud.*

- Introductions

- *All attendees introduced themselves for attendance and to determine role call for voting members and a sign-in sheet was passed around. People online where asked to present themselves in the Chat.*

a. Determination of a quorum

- *12 of 12 voting members present in-person and on-line*

Name		Affiliation
Voting Members		
Rashid Zakeri – Chair	2026	Circle Proscio
Raymond Drost – Secretary	2028	Calumet
Sara Kampfe	2027	Copeland
Chris Seeton	2026	Seeton C&P
Rosine Rohatgi	2026	Spauschus
Morgan Leehey	2026	Trane Technologies
Ramesh Navaratnam- Programs	2028	Patech Fine Chemical
Amy Shifflett	2028	Savant
Joeseeph Nigro	2028	Shrieve
Henna Tangri	2028	Solstice
Casey Scruggs – Handbook	2029	Metalloid
John DeFranks	2029	Carrier
Non-Voting Members		
Stephen Kujak – Vice Chair		Trane Technologies
Scott Wujek – Research, ALI		Trane Technologies
Danny Halel – MTG Low GWP		NTHALP Engineering
Dave Vincent- Webmaster		BVA
Sheli Porter- Standards		Stellar Labs

- Approval of Minutes and Agenda

- *A motion was made by Morgan Leehey to approve the 2026 Winter Meeting minutes and seconded by Sara Kampfe ...the motion carried 11-0-1 (chair abstaining)*

- *A motion was made by Joe Nigro to approve the 2026 Annual Meeting agenda and seconded by Amy Shifflet ...the motion carried 11-0-1 (chair abstaining)*
- **Chair's Report Breakfast Meeting – Committee and attendees were informed of topics below**
 - **Diversity, Equity, & Inclusion (DEI)**
 - . 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.
 - a. Stress this new committee is not politically driven.
 - b. Even though they are a committee on the members council...want to get feedback from the technology council
 - **Future of ASHRAE conferences (FOAC)**
 - . Ad Hoc form ~1 year ago – duty to format and/or eliminate summer annual conference
 - a. Looking to create a 4-day virtual conference to replace in person attendance.

CONNECT ➔ Bridge ➔ Convene

- b. Board of Directors, Councils and Reporting Committee Vice Chairs
- c. Winter meeting will have little to no change.
- d. TAC representatives strongly encourage all members to voice their opinions
- **Conferences and Expositions Committee (CEC)**

Program	Proposals Submitted	Proposals Scheduled
Panel Sessions	20	12
Forum Sessions	8	2
Seminar Sessions	103	64
Workshops Sessions	10	7
Debate Sessions	1	0
<u>Total</u>	142	85
<u>Total with Paper Sessions</u>	162	105

2027 Winter Meeting – Chicago – Jan 23-27, 2026

Fundamentals and Applications

- Track Chair: Jon Cohen | jonjcohen1@gmail.com

HVAC&R Systems and Equipment

- Track Chair: Richard Gunpat | richard.gunpat@gmail.com

Refrigeration and Refrigerants

- Track Chair: Anuj Gupta | anuj@design2occupancy.com

Research Summit

- Track Chair: Haotian Liu | Haotian.liu@okstate.edu

Residential HVAC Research and demonstration

- Track Chair: Vinod Venugopal | vinodpvgopal@gmail.com

Thermal Network Systems and Energy Storage

- Track Chair: Dennis Alejandro | denzjac@yahoo.com

Nexus of Real and Artificial Intelligence

- Track Chair: Joshua Vasudevan | joshuavasudevan2011@gmail.com

Decarbonization Retrofits

- Track Chair: Kevin Brown | kevin@kbsquared.net

Application Notes in Professional Practice (new)

- **industry professional-focused** applications of technology, design, and implementation
- **submit a 3-6 page brief (“Application Note”)**
- Geared toward AHR participants. Shorter more focused for application and/or designing
- Paper should stand alone...not needing a presentation.
- Should include tied to TC or other presentation topics, etc...

- **Wednesday, June 17, 2026** | Website Opens for Extended Abstracts and Seminar, Workshop, Forum, Debate, Panel and Application Notes Proposals
- **Monday, August 3, 2026** | Debate, Panel, Seminar, Forum, Workshop, Debate, and Application Note Proposals/Submissions Due
- **Wednesday, September 2, 2026** | Conference Papers and Extended Abstracts Due
- **Wednesday, September 23, 2026** | Conference Paper Accept/Revise/Reject Notifications
- **Friday, October 2, 2026** | Debate, Panel, Seminar, Forum, Workshop Scheduling Notifications
- **Wednesday, October 7, 2026** | Revised Conference Papers Due
- **Monday, October 26, 2026** | Conference Paper Final Accept/Reject Notifications

Instructions to request mini-track at next annual meeting



CEC requests for all members to take survey



- *Center of Excellence for Indoor Environmental Quality (IEQ)*
 - ❖ Develop an IEQ Roadmap – Society level that frames IEQ priorities, milestones and advocacy messaging.
 - ❖ Expedite the development of a health-based IEQ Standard.
 - ❖ Harmonize IEQ across the Society.
 - ❖ Align IEQ CE and CEBD.
 - ❖ Facilitate and expedite (develop) education Resources.
 - ❖ Assisting and coordination of IEQ Activities
- *Safety for Next Generation Refrigerants (SNGR)*
 - Ad Hoc group established to address lagging codes and standards for A3 refrigerants
 - Support and work with key stakeholders to identify gaps with A3 safety standards
 - Work with stakeholders to establish and execute research on hazards, risks, and safeguards to minimize application/deployment of A3's
 - Created 2 working groups
 1. A3 equipment in outdoor locations (define outdoors)
 2. A3 equipment separation distances (indoors and outdoors)
- *Center of Excellence for Building Decarbonization (CEBD)*
 - ASHRAE 1977-SP, Expand and Update the ASHRAE Service Life Table in the HVAC Applications Handbook
 - ASHRAE 1988-SP, Whole-Life Carbon Gap Analysis
 - ASHRAE 2025-SP, Whole Building MEP Benchmarking Data Research
 - ASHRAE 2026-SP, Whole Life Carbon Calculation Guide for Building Systems
 - ASHRAE 2027-SP, Refrigerant Leakage Rate Emissions Tracking
 - Position document expires in 2027 creating working group for 2050 goals
- *ASHRAE Government Affairs Committee (GAC)*
 - Still fighting the fight in D.C.
 - Created a new pilot program SMEs for GOEs
 - Please subscribe to GAC biweekly updates

www.ashrae.org/government-affairs



- **Technical Activities Committee (TAC)**
 - New Master Calendar
 - ASHRAE shadow connect program
 - George B. Hightower Technical Achievement Award (Dec 1st)
<https://www.ashrae.org/communities/committees/technical-committees>
 - Global Technical Interaction Committee (GTIC) is looking for TC 3 members to volunteer for engagement ISO-TAGs on ISO/TC 86
- **Liaison reports**
 - *Tina Breuckner was present, Tina is rolling off as Section 3 TAC Chair and the committee recognized the help and assistance provided to our TC.*
 - *Tina presented Rashid with his certificate and thanked him for his service and the committee acknowledged his work.*
 - *Jonathin Smith is rolling on as the new Section 3 TAC Chair*
 - *No other Liaisons were present or online.*
- **Subcommittee reports**
 - a. **Programs – Ramesh Navaratnam**
Review of Sponsored, Co-sponsored or Programs of Interest

Programs Ideas and Discussion of Future Programs:
 - No programs were sponsored by TC 3.4 in Austin.
 - Review past ideas for Heat Pump as reducing carbon footprint.
 - Four seminar abstracts were submitted last year.
 - Low GWP Refrigerants in Residential Air Conditioning, Heat Pump and High Temperature Heat Pump Applications: System Design and Oil Selection. Henna Tengari- Honeywell.
 - Heat Pump Refrigerant Operation and Lubricants – Can the Marriage Work?- Joe Karnaz-Shrieve
 - Experiences with Low GWP R-454B Heat Pump in a Cold Climate. – Steve Kujak.
 - Lubricant effects and challenges in high temperature heat pump application.- Dr. Chen
 - However, the seminar was not accepted.
 - 2026 it was difficult to resurrect due to participant availability and commitment.
 - Renew the commitment to submit a seminar in 2027. Either in Chicago or New Orleans.
 - New Proposal: Seminar; Next Generation Lubricants for Heat Pump Lubricant.
 - Topics include:
 - Highly Efficient Heat Pump Lubricants as a carbon reduction strategy.
 - Lubricant improvement to meet the demands of new Heat Pump technology.
 - The seminar will address the advancement of lubricant technology:
 - Temperature requirements
 - Refrigerant compatibility
 - Lubricity performance.
 - We need new ideas to make the seminar title more acceptable.
 - So Far Joe Karnaz, Shrieve and Dr. Chen, Patech are committed to submitting paper. Looking for volunteers.

- During the meeting Riley Barta from Purdue said they would be willing to present based on some work they are doing with higher temperature application and lubricants. Lubrizol is tentative and will check and respond. It was also suggested to ask TC 8.1 if they have a someone that could present on compressors and also co-sponsor. (After the meeting Chris Seeton attended TC 8.1 and they were willing to co-sponsor and had a presenter, someone from Oklahoma State volunteered.
- Once speakers are identified, the chair will send a Letter Ballot to TC voting members with the seminar title (tentative – Strategies for Sustainable Heat Pump Operation) and chair (tentatively Ramesh Navaratnam has volunteered) for vote so program can be submitted before the August 3rd deadline.

Addendum – Through a letter ballot by the incoming chair: A motion was made by Ray Drost to sponsor a Seminar in Chicago titled “Strategies for Sustainable Heat Pump Operations” Chair by Ramesh Navaratnam and co-sponsored by TC 8.1. The motion was seconded by Ramesh Navaratnam. Motion carried 9-0-2-0 Chair Voting.

b. Research – Scott Wujek

TC 3 Combined Research Meeting

Notes from Research Chair Breakfast

- *A new Section 3 RAC liaison will start for the new society year.*
- *Currently 42 active research projects and 89 million dollars are spent.*
- *2025-2028 Strategic plan has 3 major focus areas.*
 1. *Position ASHRAE as the global leader in advanced solutions to improve indoor environmental quality (IEQ) and address climate change*
 2. *Pursue impact-focused engagement by targeting stakeholders to support a strong workforce and maximize utilization, adherence, and trust of ASHRAE’s global expert resources*
 3. *Increase the accessibility of ASHRAE content, resources, and member opportunities.*
- *Budget – 4 million for 2026 with 19 RTARS and 19 Work Statements Active*
- *ASHRAE offering Mentorship for research chairs*
- *Milestones for RAC decision making is March/May/August/December*
- *Understanding bidder recommendation process – how you assign points; details on picking; placing proper emphasis on their capabilities where outlined in the meeting to help the process*

Current Research Activities Updates:

- **RP 1879 – “Foaming Properties of Low GWP Refrigerant and Oil Mixtures”**
 - *Chris Seeton: The Principle Investigator (Craig Bradshaw) had been provided a no cost extension and is currently collecting data. A meeting invite will be sent out in the next few weeks to the PMS to go get an update and go over progress for completion.*
 - *PI provided the following updates*
 - *The foaming data collection is completed and a preliminary analysis of results*
 - *Completed 8 of 12 pairs of surface tension data and preliminary analysis of some of the results*
 - *Completion of final surface tension pairs is imminent and will write a final report for ASHRAE soon*
- **Future Research needs and New Research ideas**
 - *Topic “Preferential Solubility of Glide Refrigerant Blends.”*

Currently TC 3.1 will be focusing on this RTAR and TC 3.4 can be a co-sponsor. Henna Tangri, Scott Wujek and Chris Seeton will be following this.

- Topic: *“Dielectric Properties of low GWP Refrigerants- Lubricant focus*

Waiting on RTAR 1851 developed by TC 3.1 (RTAR Approved, in work statement phase) with pure refrigerants. TC 3.4 proposed sponsored research will be a follow-up including lubricants into the matrix.

- OCR sensor development for high oil circulation rate measurements
 - Research needs for other refrigerant and lubricant combinations – Handbook data generation; a number of newer refrigerants were mentioned that could benefit being in the handbook
- o Discussion surrounding Rashid rolling on as Research chair after he rolls off as committee chair in 2027

c. Handbook – Casey Scruggs

- Chapter 12 *Lubricants in Refrigerant Systems*
 - Chapter 12 2026 publication finished – Casey Scruggs went through proofs
 - Chris Collins will take over for Casey Scruggs as the Handbook Chair. Committee Chair to make this roster change
- o A general handbook comment was made regarding some TC 3.1 chapters moving from Fundamentals to Refrigeration

d. Standards – Sheli Porter

- **GPC 40** *“Refrigeration Oil Description”*
 - o Voted on and turned over to ASHRAE - Finished
- **SPC 86** *“Methods of Testing the Flocc Points of Refrigeration Grade Oils”*
 - o Approved galley proofs – published in July; Brad Boggess thanked the team
- **SPC 172** *“Method of Test for Insoluble Materials in Synthetic Lubricants in Refrigerant Systems”*
 - Raymond Drost will head committee to resubmit standard update for new standard; will need to wait until ASHRAE 86 is re-published.
 - o Still waiting for 86 to be published
- **SPC 218** *“Method of Testing for Lubricant and Refrigerant Miscibility Determination”*
“Method of Test for Insoluble Materials in Synthetic Lubricants and HFC Refrigerant Systems”
 - o No PPR comments and finalized submission documents – published in May
- **New Ideas for standards or guidelines**

- *Sheli Porter is looking for co-chair for assistance because she is unable to attend summer meetings.*
- o *Still looking for help – table for Chicago*

e. Webmaster – Dave Vincent

- *Website up to date and Dave Vincent will update Las Vegas draft minutes to final*

f. Old Business

- *MTG Sustainable RAC has disbanded so we no longer need a representative*

g. New Business

- o The committee thanked Rashid for service as chair.
- o Rollover Roster Discussion
- o Voting Members
 - Rolling off: Rashid Zakeri; Morgan Leehey; Rosine Rohatgi; Chris Seeton; Joe Nigro
 - Rolling On: Joe Karnaz; Scott Wujek; Dave Vincent; Andrew Sumner
- o Committee Management
 - Chair – Joe Karnaz
 - Vice Chair – Ray Drost
 - Secretary – Corey Anderson
 - Research – Rashid Zakeri
 - Standards – Sheli Porter
 - Handbook – Chris Collins
 - Programs – Ramesh Navaratnam
 - Webmaster – Dave Vincent
 - MTG Low GWP – Danny Halel

- Adjourn

- *Chair moved to adjourn meeting at 2:55 pm*