

DRAFT Minutes
TC 2.3 - Gaseous Contaminants/Removal Equipment
Research Subcommittee Meeting
February 10, 2025, 4:30-6:30 PM
Hilton Orlando, Lake Concord AB (Lobby Level)

- 1 Call to order 4:32 PM

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>

Reminder: Recording (Audio, Video, Screenshots) of ASHRAE meetings, including online meetings, is strictly prohibited.

- 2 Introductions and Recording Attendees 25 attended
- 3 Review of Minutes from Summer Meeting- no comments or edits
- 4 Chair comments- Research Chair Breakfast
 - a. No RTARs submitted this meeting- motivation to get some submitted for next deadline
 - b. Budgeting guidance provided
 - c. Reminder to do online training to be on PES or PMS
 - d. Make sure that WS cover sheets are completed fully
 - e. Research will be updating Research Strategic plan to align with ASHRAE new strategic plan
- 5 RAC report (Liaison TC 2.3- Chris Gray) Not present
- 6 Active Projects:
 - a. **RP-1869:** Evaluation of Indoor Air Contaminants with respect to Development of a Revised Indoor Air Quality Procedure (IAQP) Design Compound and Design Target Lists for Standard 62.1. TC 2.3 is the lead, Co-sponsored by SSPC 62.1 & TRG4. Champion: Gemma Kerr. WG: James Dennison, Dean Tompkins, Marwa Zaatari, Hoy Bohanon, Wayne Thomann
Gemma- started in March, PMS has had two online meetings, Task 1, setting database parameters and is approved by PMS.
Gemma- On time and on budget. Task 1 complete, Task 2 reviewing papers and selecting those with data to use 90% complete. 300+ papers reviewed, 8000 data points. Some of the VOCs don't have

many data points. Project is proceeding.
Tentatively planning on ~10 min update on project next meeting

- b. **RP-1928:** Combination duct and chamber test. Chrystal Jolliffe champion, Gemma, Cheng-Seo, and Joe Pessa. Sponsored by 2.9, Co-sponsored by TC 2.4 and TC 2.3.
Awarded to LMS, PI Kevin and Kathleen. One initial meeting, beginning stages. Just got a request from 9.6 to add Linda L. to PMS.
Kevin- 2 year project started in April. What can be done to improve Chamber+ duct test standards 185.5 and 145.4. Phase 1 complete. KCl used for testing. Waiting to hear from ASHRAE, Feb 27th for PMS meeting- will be open and invites will be provided to groups.

7 Work Statements and RTARs

- a. **1895-WS** Effect of particles on loading on gas filters, with possible interest in looking at other combinations of technologies in the same air cleaner (~~Matt~~, Brian, Paula, VJ). TC 2.4 and GPC 35 co-sponsored.
Need to address comments and then send to Chris Gray. Will then go out to bid. PMS- Brian, Paolo T., KJ, Caitlin (need to find date of the vote on this WS)
- b. **1913 TRP** Study of the Corrosion Impact on Information Technology Equipment in Data Centers Located in Coastal Regions with High Sea Salt Concentration: TC 9.9 is the lead – TC 2.3 is cosponsor.
Chris Muller is the PES chair, target is to have bids reviewed by end of Feb.
- c. **1846-RTAR (resubmitting as RTAR):** Real Time Small sensors/ affordable: Christopher Vizcaino (new champion), Brian K., Fuoad Parvin, Thad Ptak, Jeff Roseberry, Sanjeev H., Jensen Zhang, Jordan Clark. Members interested Tony Abate, Sanjeev
Dropped from RAC, will need to be resubmitted as a new RTAR. Have a new draft will get 2.3 vote before March 15 and submit. Ask TG2.RAST and TG.IAQMD for co-sponsorship?
- d. **1858-WS (resubmitting as WS):** sVOCs including how SVOC emissions change with temperature - Sanjeev*, Jianshun Zhang, Kevin Kwong, Kathleen Owen
Work statement was re-written; comments came back and need to be resolved.
Sanjeev has the WS needs help with the cost/ budgeting, then it will be ready to submit. (this will be dropped if not action) Plan is to submit before August TC 2.3 and TC 2.4 will need to vote
This has been dropped by RAC tracking. Can resubmit directly as a WS but will need a new number. 2.3, 2.4 and 4.3 will re-vote in Orlando.
- e. **1931-RTAR (status?)** Determination of the CO₂ and Aerosol Generation and Metabolic Rates of Occupants for Selected Indoor Activities (from TC 2.1)
Waiting to get update. From Chris Gray- Might be merging with a second RTAR?
- f. ~~**1935-RTAR** Effects of increased use of surface disinfectants and hand sanitizers on indoor air quality. Chang Seo, Kathleen, Jensen, Marilyn, Paula. Caitlin reached out to Chang Seo to see if she was still interested (8/8/24) She is no longer able to move this RTAR forward. This has been dropped by RAC. Would need a new Champion and resubmit under a new number.~~
- g. **1976-RTAR (writing WS)** Ozone Removal Efficiency and Generation of Byproducts on VOC-Loaded Gas-Phase Air Cleaning Devices. Menjia Tang – Champion. Volunteers to work with Menjia on WS. Jensen
RAC accepted with comments. Menjia is looking for help writing WS. Kathleen, Gemma
One comment- identify co-sponsors (industry)

8 Proposed RTARS and other work:

- a. The Effects of Filtration and Air Cleaning on Health & Safety. Caitlin Naske Champion. Nick Agopian, Lexuan Zhong, Kathleen, Sanjeev, Paula, Brent S.
Caitlin- No work has been done for several meetings- is there still interest in topic/ DALYs?
Henry G will look at topic and see if anything worth pursuing
- b. Acceptable VOC types and concentrations for inclusion in multi contaminant test gases Gemma champion, Kathleen, Ashish and Paula.
 - i. Gas mixture vs individual gas results, how to interpret data with competition
 - ii. Gemma did background work and getting ready for RTAR- how can we get something that is useful for 145.2. Kathleen and Caitlin, Jensen
- c. Brian- adsorption and emission from particulates in filters, Brian had done a lit search long ago with only a few, maybe newer studies/ research. Caitlin to champion. Masih will help, Brian, Marilyn
- d. ~~Possibly Investigate MVOCs? Real time sensing of MVOCs for mold detection?~~
- e. “Impact of Age on Air Cleaning Devices” Cleaning secondary products from the air- 2.4 lead John Randtke*, Marwa, Jianshun, Brian K, and Jeff Roseberry interested in helping. John is drafting. Looking for 2.3 co-sponsorship. Targeting May 15th deadline.
- f. PFAS is it a particle or a gas, is carbon effective in removing it in air, technology is already used in water, used in a lot of pan and cookware emerging contaminant
Next step: Brian will champion- lit search Chris V. and Paula can help (if you find an article send to Brian) Currently compiling papers and information for lit search RTAR. This is currently a hot topic, may be more a 2.4 topic due to it being SVOC.
Action: Caitlin will make a Basecamp folder- send all PFAS references to Caitlin
- g. ~~What’s better in room air cleaners or in system filters? Literature search into what is out there. Where is the best place to put in filtration? Put it out as a forum with TC 2.4 move to Programs?~~
 - i. ~~62.2 does not allow portable air cleaners, they will be discussing pros and cons. They aren’t part of the building. Understanding the short term/ periodic benefit of these portable air cleaners.~~
 - ii. ~~Is there research/ data on how long portable air cleaners are used vs. stop use, replace, etc.~~
 - iii. ~~Masih Champion Could look at how in duct filter vs in room air cleaner which one is more effective~~
 - iv. It depends- there are a lot of factors
 - v. Moving to Programs: Debate topic: when is an in room air cleaner better than in system filters? Will add to programs. Champion-Marilyn, Target for Vegas. Chris V, Peter M. 2.4 and Jim R with C-R boxes.
- h. New Ideas
 - i. 9.13 Space- looking at gases in spaceships and on the moon and mars/ space (Brian keeping track)