

Draft Minutes
TC 2.3 - Gaseous Contaminants/Removal Equipment
Research Subcommittee Meeting
Orlando, FL Sunday 5:00-7:00 pm

1. Meeting call to order Kathleen Owen called the meeting at 5:00 PM
2. Introductions were completed
3. Atlanta Minutes approved without changes.
4. RAC Report (Liaison TC 2.3 – Pawel W) - Pawel arrived at 5:55: Pawel stressed that he is here to help and cosponsorship is nearly a requirement to get an RTAR approved. ASHRAE wants research projects that will support the current ASHRAE strategic plan. ASHRAE is well off financially now to fund research. ASHRAE would like to see results of research projects disseminated. Deadline for applications for Homer Addams Award will be moved from December to Spring in 2017. Award of 5000 to a researcher – consider nominating someone.

URP – (unsolicited research proposal) this is research done by a person or company outside of ASHRAE and the committee. Send ½ page summary to PAWEL and he will bring to RAC this avoids going to the committee for approval.

The ASHRAE strategic plan should be sent to research attendees. Find this here
<https://www.ashrae.org/standards-research--technology/research>

Kathleen Owen provided a quick reminder to attendees about the results of a brainstorming session that occurred at the last meeting – the topics were as follows

- I. Real Time Small sensors
 - II. Desorption of filters gas and particulate
 - III. Trace VOC acceptable levels – how to come up with acceptable
 - IV. Multi-contaminant challenge what acceptable VOC levels
 - V. Service life
 - B. Brian Krafthefer gave a presentation on how to do an RTAR
 - I. Paula will put presentation on website and it can be included in the minutes along with the notes. These will be separate attachment to the minutes.
5. Work statements & RTARs – Updates
- A. 1579-WS Testing and Evaluation of Ozone Filters for Improving IAQ – Matt Middlebrooks Ashish, Brad, and Jeff, Dave Chojnowski, Michael Sexsmith and Sanjeev Hingorani
 - I. Matt Middlebrooks reported that 1579 was heavily rewritten and was submitted to Pawel for review just prior to the Dec 15 deadline. The comments were extensive and there was not enough time to resubmit prior to the December 15th deadline.
 - B. 1720-WS Validation of gas-phase air-cleaner performance test method (Standard 145.2) by laboratory testing of commercially available filtration devices - Kartik and Brian with Gemma Kerr. PES to be: Paula Levasseur, Chris Muller, Gemma Kerr, David Schaaf, Brad Stanley . Kartik volunteered to be the PES chair – Kartik will head the RTAR – it needs to be rewritten so that the comments from RAC can be addressed.
 - C. 1614-WS kitchen hood effectiveness of UV systems (5.10) – B Krafthefer

- I. They are reviewing the WS again and will most likely go to the TC 5.10 for a vote to submit to RAC
 - D. 1755-WS – Impact of gaseous contamination and high humidity on the reliable operation of information technology equipment in data centers. (TC 9.9, cosponsoring) - Chris Muller
Kathleen Owen reported for Chris– proposals have been submitted and one should hopefully be approved quickly.
 - E. 1780-RTAR, Test Method to Evaluate Cross-contamination of Gaseous Contaminant within Total Energy Recovery Devices; Responsible Committee: TC 9.10 (Laboratory Systems); Co-Sponsors: TC 2.3 (Gaseous Air Contaminants and Gas Contaminant Removal Equipment); Status: Accepted w/ comments. Can begin work statement.
 - I. Nick Agopian reported on 1780– they have looked for research in Europe. ASHRAE is wondering how this benefits them. This is a work in progress
 - II. Unvented combustion in residences (new RTAR). Sponsored by 62.2 they would like help from T.C. 2.3 RTAR name is – Impact of Combustion Emissions from Gas-Fired unvented combustion devices on indoor air quality. Nick will help write the RTAR. TC needs to vote on co-sponsorship. ASHRAE has a position paper on unvented combustion devices. Paula Levasseur will send both of these documents to TC 2.3 voting members.
6. Proposed RTARS and other work: status updates - 15 min
- A. sVOCs including how VOC emissions change with temperature - Jensen Zhang & Sanjeev-
 - I. very little done Kevin Kwong is going to join this project. They will pick it back up again after this meeting.
 - B. Demand-based air-cleaner operation to save energy. Brian Krafthefer and Jensen Zhang- Brian K will discuss with GPC 35 to modify the focus
 - C. Consumer product (previously Bio-effluent) emission rates to assist IAQP calculations - Chang-Seo Lee, Pawel Wargocki, Dean Tompkins – Pawel should not be part of the working group now that he is our liaison. Many good comments were sent back. T.C.2.1 may also be interested.
 - D. Using specially treated textiles to reduce odors (the effect would be similar to using room air-cleaners). Arsen Melikov champion, Ashish. – Nothing has been done: Arsen has not responded to Ashish – Pawel feels we should keep on the agenda but there is no one at the moment ready and willing to work on it. Kathleen and Ashish will reach out to Arsen one more time.
 - E. Bipolar Ionization performance test method for VOC etc. removal and testing a variety of commercially-available ionization devices. Scott Sherwood champion, Jensen, Dean Tompkins, Charlie Waddell, Chang-Seo, Marilyn Listvan. This group has done a lot of work brainstorming and working through many ideas. However, it is still very much a work in progress. Steve Welty, Dan Mason, and Kyle Kisebach have joined this group.
 - F. IAQP field studies - Marwa Zaatari, Anthony Abate and Dean Tompkins – Kathleen in looking for this group to put forward some idea during the brainstorming session.
 - G. The effects of filtration on health. Dean Tompkins, Nick Agopian, with EHC interest
 - I. Dean says he has little to say on it – the position document is out.
7. New Business –
- A. Charlene Bayer – additional research project ideas
 - I. Kathleen Owen- in-room air cleaners
 - II. Brian Krafthefer – energy usage of gas filtration and particulate filtration
 - III. Marwa – How should the IAQP be applied when the IAQ/CoCs are not well defined
 - IV. Charlene – controlling voc levels when applying IAQP
- IAQP in residences – no champion
Gas phase filtration in residences- no champion
How does the reduction of VOC's using gas phase filtration affect odors (Ashish Mathur)

8. The remainder of the meeting we broke into working groups – please send notes from your discussions to Kathleen
9. Meeting adjourned at 7 pm
10. Notes from Research Subcommittee Breakfast (added after the meeting as the breakfast is Monday morning)
 - A. Submission deadlines are May 15, Aug, and Sept (not February)
 - B. Cosponsoring: need to get someone on the cosponsoring committee onboard as early as the writing the RTAR stage.
 - C. This time RAC considered:
 - I. 9 RTARs considered: 5 accepted with comments, 4 rejected
 - II. 4 WS: 1 accepted, q conditionally accepted, 1 returned, and 1 incomplete
 - III. To respond to ‘conditionally accepted,’ use cover letter to point out how you responded in your main text
 - D. RAC wants to look at more Applied Research
 - E. The Work Statement (WS) for has been modified
 - F. New training material is being reviewed for publishing on the ASHRAE website
 - G. No grad students were submitted for the Homer Addams Award for grad students who’ve done good work on ASHRAE funded research. Please submit applications next year
 - H. New guidelines for PES/PMS are coming – please read and follow

Meeting Attendees

Name	Affiliation	Name	Affiliation
Paolo Tronville	Politecnico Di Tonino	Kevin Kwong	LMS Technologies
Marwa Zaatari	enVerid	Rahul Bharadwaj	AAF
Peter Freeman	Jacobi Carbons	John Simenson	Johns Manville
Henry Greist	Lennox Ind	Chang-Seo Lee	Concordia Univ
Sanjeev Hingorani	Lennon Ind	Dean Tompkins	Dean Tompkins Group
Kyle Kisebach	Kisebach Consulting	Jeff Roseberry	ProMark Associates
Lubos Forest	Honeywell Inc	Marilyn Listvan	Listvan & Associates
Mick Flom	3M	Kartik Potukuchi	Graver Technologies
Jayesh Doshi	eSpin	Bob Burkhead	Blue Heaven Technologies
Daniel Mason	Bioclimatic	Matt Middlebrooks	Filtration Group
Nick Agopian	Renewaire LLC	Paula Levasseur	Cameron Great Lakes
Brad Stanley	AAF	Gemma Kerr	retired
Ashish Mathur	UVDI	Brian Krafthefer	BCK
Lu Liu	Freudenburg	Kyung-Ju Choi	Clean & Science
David Space	Boeing/Seattle	Charlene Bayer	Hygieia Sciences
Kathleen Owen	RTI		