

Draft Minutes
TC 2.3 - Gaseous Contaminants/Removal Equipment
Research Subcommittee Meeting
Las Vegas Sunday 5:00-7:00 pm

Meeting Attendees:

Kathleen Owen	RTI	Matt Middlebrooks	Filtration Group
Gemma Kerr	retired	Ashish Mathur	UVDI
Marilyn Listvan	Listvan & Associates	Kyung-Ju Choi	Clean & Science
Chang-Seo Lee	Concordia Univ.	Kevin Kwong	LMS Technologies
John Zhang	3M	Jeff Roseberry	ProMark Associates
Pete Freeman	Jacobi Carbon	Len Duello	Georgia Pacific
Nicholas Clements	Delos	Tony Abate	Atmos Air
Daniel Mason	Bioclimatic	David Space	Boeing
Charlene Bayer	Hygieia Sciences	Dean Tompkins	Dean Tompkins Group
Keith Chesson	Clarcor	Christine Sun	Filtration Tech
Fuoad Parvin	Halton	Mick Flom	3M
Brad Stanley	AAF	Peter McKinney	Carrier/StrionAir
Paolo Tronville	Politecnico Di Torino	Paula Levasseur	Cameron Great Lakes
Dan Haas	Clarcor	Thad Ptak	AO Smith
Jayesh Doshi	eSpin	Vivekanand Gaur	Columbus
Sanjeev Hingorani	Lennon Ind	Henry Griest	Lennox
Jensen Zhang	Syracuse	Tandeep Chadha	Applied Particle Technology
Scott Sherwood	EcoCare Corp	Brian Krafthefer	BCK

1. Meeting call to order @ 1800 hrs
2. Introductions and Sign-In
3. Review of Minutes from St. Louis
 - A. No changes to minutes
 - B. No changes to agenda
4. RAC Report (Liaison TC 2.3 – Pawel W)
 - A. Liaison was not present at the beginning of the meeting. His comments are dispersed throughout the rest of the minutes.
5. Work statements, RTARs, and RPs – Updates – 25 min
 - A. **1720-WS Validation of gas-phase air-cleaner performance test method (Standard 145.2) by laboratory testing of commercially available filtration devices – Kartik Potukuchi** 1720 was accepted and will go out for bid this Spring. PES will also include: Paula Levasseur, Chris Muller, Gemma Kerr, Brad Stanley
 1. Accepted
 2. Will be going out for Bid in spring 2017.

- B. **1579-WS Testing and Evaluation of Ozone Filters for Improving IAQ**— Sanjeev Hingorani, Kevin Kwong, Matt Middlebrooks, Nick Agopian, Thad Ptak are on the PES. 1579-WS made the submission deadline but was returned as being too similar to 1720. WG deciding what to do.
1. Returned with comments from RAC
 2. Working Group has given answers to questions from Pawel Wargocki.
 3. Working Group is waiting for Pawel's feedback.
 4. TC has not voted on these changes.
 5. ***ACTION ITEM: Sanjeev and Kathleen Owen to work with Pawel on how to proceed forward. Due date is May.***
- C. **1614-WS kitchen hood effectiveness of UV systems (5.10)** – B Kraftheffer.
1. This is out for BID
 2. ***ACTION ITEM: Brian Kraftheffer to remind them that we must have a representative from TC 2.3 on this.***
- D. **1755-TRP, Impact of Gaseous Contamination and High Humidity on the Reliable Operation of Information Technology Equipment in Data Centers**". TC9.9 project, TC 2.3 co-sponsor, Chris Muller on PES. Project underway
1. Jensen Zhang is PI
 2. Project is 6 months into process
 3. Literature review completed
 4. Prepared the coupon holding device to use for multigas challenge at varying humidities and then analyze the surface characteristics as well as Purafil lab analyze the coupons.
- E. **1780-WS, 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. Chris Muller, Nick and Gemma. WS is being written.
1. Work statement is still under construction.
6. Proposed RTARS and other work: status updates - 75 min
- A. sVOCs including how SVOC emissions change with temperature - Sanjeev*, Jianshun Zhang, Kevin Kwong RTAR written and revised, in discussion with other groups for co-sponsorship
1. RTAR has been drafted, but it needed cosponsorship. Sanjeev and team were waiting for the cosponsorship.
 2. ***ACTION ITEM: Kathleen Owen send instructions on what needs to happen with this RTAR.***
- B. Consumer Product used by Occupants, Related Pollution Loads - Chang-Seo Lee*, Thad Ptak, Marilyn Listvan
1. RTAR is stopped right now.
 2. Original purpose and draft was to do chemical analysis, but feedback was to revise it to include perceived air quality. It became too big of a project for Chang Seo to continue forward
 3. ***ACTION ITEM: Kathleen Owen send referenced paper link to the group. (done)***
- C. IAQP field studies - Marwa Zaatari*, Anthony Abate, Jeff Roseberry and Dean Tompkins –
1. No update.
- D. Bipolar Ionization/Reactive Air Cleaner 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. (SSPC145 has a draft RTAR headed by Kevin Kwong with Scott Sherwood, Charlie Waddell) WG plans to work on RTAR for a chamber test.
1. Planning to revise to a chamber study.
 2. Tony Abate as champion, Scott Sherwood still interested.
 3. ***ACTION ITEM: Kathleen Owen check interest of other members above.***
- E. The effects of filtration on health. Dean Tompkins, Nick Agopian, with EHC interest –Pawel says RAC is ok with lit search RTARs

1. No update.
- F. Real Time Small sensors: Brian K., Marilyn Listvan, Fuoad Parvin, Lu Lui, maybe Jeff Roseberry
 1. RTAR drafted by Brian K.
 2. Brian needs assistance with a couple sections. He would like to send it to Marilyn Listvan and Fuoad Parvin to review.
 3. ***ACTION ITEM: Brian K to send to Kathleen, Marilyn Listvan, and Fuoad Parvin for assistance with review and section, add Thad Tack, add Jeff Roseberry, add Dave Space, add Sanjeev H., add Jensen Zhang***
 4. May want to consider the Indicator Compounds from TRG4.IAQP.
 1. Currently included: formaldehyde, toluene
 2. Others being considered may depend on building usage and environs and local surrounding activities
 5. International Energy Agency Annex 68 document may have valuable input for gases to consider. Jensen Zhang has information on it.
- ~~G. Desorption of filter gas and particle – Brian and Marilyn~~
 - ~~1. No update – remove from list~~
- H. Trace VOC acceptable levels – how to come up with acceptable levels-on hold
 1. RAC Liason suggestion is to work with TC 2.1 & SSPC 62.1 on these topics.
 2. Still needs champion. Possible discuss with Dave Space.
- I. Multi-contaminant challenge what acceptable VOC levels-on hold
 1. RAC Liason suggestion is to work with TC 2.1 & SSPC 62.1 on these topics.
 2. Still needs champion. Possible discuss with Dave Space.
- ~~J. Service life on hold~~
 - ~~1. No update remove from list~~
- ~~K. In room air cleaners: Kathleen~~
 - ~~1. No update remove from list~~
- ~~L. Energy usage of gas filtration and particulate filtration – Brian Krafthefer, Bill Lull Kyle Kisebach on hold~~
 - ~~1. No update remove from list~~
- ~~M. controlling VOC levels when applying IAQP – on hold~~
 - ~~1. No update remove from list~~
- ~~N. IAQP in residences – on hold~~
 - ~~1. No update remove from list~~
- O. The role of gas filtration improving IAQ in Residences – Jensen, Nick and Kathleen.
 1. No Update
- P. Using specially treated textiles to reduce odors (the effect would be similar to using room air-cleaners). Arsen Melikov champion, Ashish.
 1. No update
- Q. Demand-based air-cleaner operation to save energy. Brian Krafthefer, Jensen Zhang, Kyle Kisebach
 1. No update.

7. New Business

- A. Proposed RTAR From SSPC145.2 regarding the testing of Energetic Air Cleaners
 1. Matt Middlebrooks to send to Kathleen for review. He will be sending it to our Research Liaison for review.
- B. 3D Printing Topic (Paula Levassaur will help someone)

8. Adjourn

9. Notes from Research Chair Breakfast (Monday morning)

- A. Only **3** RTARs were submitted for consideration in LV. **All were accepted.**

- B. 4 WS were considered, 1 conditionally accepted, 3 returned
- C. Innovative Research Grant (IRG) – 33 preproposals rec'd, 6 qualified to move forward to full proposals. (only one will be funded)
- D. Grant in Aid for Undergrad or graduate students - \$10K, due in March
- E. There is a new research manual. Kathleen will find this and see what changes we need to make, if any.
- F. PMS Training – Soon there will be a training session setup for PMS chairs and members. We will be notified when it is scheduled. Later the module will be available on-line.
- G. Pawel and Kathleen talked to Mike Vaughn during the meeting. Mike will put 1579-WS on the RAC schedule for a 5-min presentation to RAC on Sat morning in Long Beach.