Minutes
TC 2.3 - Gaseous Contaminants/Removal Equipment
Research Subcommittee Meeting
Virtual, Wednesday January 19th 12:00PM-4:00PM EST

Attendees:

Name	Affiliation
Paula Levasseur	
Caitlin Naske	Dynamic AQS
Gemma Kerr	
Kathleen Owen	
Kyung Ju Choi (K-J)	
Chang-Seo Lee	
Matt Middlebrooks	Filtration Group
Gregg Sanko	BASF
Brian Krafthefer	
Kevin Kwong	LMS Technology
Henry Greist	Lennox Industries
Sanjeev Hingorani	Lennox Industries
Marilyn Listvan	
Tori Binz	Dynamic AQS
Scott Parris	Freudenberg
Marwa Zaatari	
Mick Flom	3M
Gabrielle Davis	Camfil
Chris Muller	AAF
Chrystal Jolliffe	Carrier
John Randtke	Schneider Electric
Nick Agopian	Renewaire
Antonios	
Bill Lull	
Lu Song	Lydall
Jonathan Rajala	AAF
Lexuan Zhong	U Alberta
Christine Sun	
Dan Mason	Bioclimatic
Marwa Zaatari	
Meng Kong	Well Living Lab
Ashish Mathur	UVDI

1 Meeting call to order at 2:28 EST

2 Introductions and Recording Attendees 5 Min

Enter Name, affiliation and email in Chat

3 Review of Minutes from Summer Virtual Meeting: 5 min
No changes to minutes

4 Chair comments: 5 min

a. https://www.ashrae.org/file%20library/technical%20resources/research/research%20strategic%20plan/research-strategic-plan.pdf

New ASHRAE strategic research plan- use for new RTARs, research products will get funded if they align with plan (not currently funding and projects, no funds, funding has stopped)

5 RAC report (Liason TC2.3- Bill Hutzel) 5-10 min
Not present Paula- not much to report, TC 2.3 the most active and has the most projects going
Research Chair meeting Jan 31st

6 Active Projects : 2 Hours (approx. start 12:30PM EST)

a. **1720-RP Validation of gas-phase air-cleaner performance test method (Standard 145.2) by laboratory testing of commercially available filtration devices** – PMS : Gemma Kerr, Paula Levasseur, Chris Muller, Nick Agopian, Marilyn Listvan. PI: Kathleen Owen. (45 minutes)
PMS meeting ~12:00-1:00 EST
Have all ozone data, still waiting on toluene data, will put in for 6 month extension

b. **1838-RP Inclusion of Electronic Air Cleaners** – PMS: Kevin Kwong, Jeff Roseberry, Tony Abate, Nick Agopian, Ashish Mathur, Paula Levasseur. PI: Dean Tompkins; co-PI Kathleen Owen (1 hour)
PMS meeting ~1:00-2:00 EST
Kevin will follow up with Tony RE 145.2 edits
Bill Lull- would like to see testing at 30% and 50%
Chang Seo- proposed test to assess impact of RH%

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c. **1579-RP Testing and Evaluation of Ozone Filters for Improving IAQ—** PMS: Sanjeev Hingorani, Kevin Kwong, Matt Middlebrooks, Nick Agopian, Thad Ptak, Hoy Banohan (EHC). PI - Atila Novoselac; Jeff Siegel, Consultant. 5 Minutes
Final report is completed and PMS approved, will be up for final vote in main meeting, should see report shortly after

d. **1780-RP, 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. Nick Agopian on PMS. Awarded to University of Saskatchewan. 10 minutes
Nick on PMS- it was awarded, had issues with COVID, presented some data (very shocking), moving slowly, asked for an extension

7 Work statements and RTARs – Updates 30 minutes

a. **1867-RTAR: Development and validation of a model for assessing the corrosion risk of Datacom equipment under different pollution and thermal environmental conditions.** TC 9.9
Will try and get an update from Chris Muller

b. **1869-RTAR**: 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. Champion: Gemma Kerr. WG: James Dennison, Dean Tompkins, Marwa Zaatari, Hoy Bohanon, Wayne Thomann.
Gemma- had comments from RAC, have to respond to comments- has not gotten done yet, goal is to work in Feb to submit for March deadline

c. **1846-RTAR:** Real Time Small sensors: Brian K., Fuoad Parvin, Thad Ptak, Jeff Roseberry, Sanjeev H., Jensen Zhang, Jordan Clark. No Update – waiting on the 2.4 sensor study
Brian- no longer waiting on sensor study, have not developed RTAR for new sensor study- Brian will attempt to complete for May deadline & will reach out to group

d. **1858-RTAR:** sVOCs including how SVOC emissions change with temperature - Sanjeev*, Jianshun Zhang, Kevin Kwong, Ying Xu, Brent Stephens, ~~Brandon Boor~~, Chang-Seo Lee, and Jim Rosenthal.
Kevin- does not know where it stands right now, has been sent in several times (may have been sent back again)- Paula has emailed Sanjeev and is waiting for a response.
Has been rejected a few times- possibly add RH to include?

e. **1895-RTAR** 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.
How the particles are dimensioning the gas phase filter
Paula will look for latest version, Brian will edit & send to RAC
Bill Lull would like to weigh in- what's practical to measure in the field

f. **1928-RTAR**- Combination duct and chamber test. Matt, Gemma, Kathleen, Cheng-Seo, and Joe Pessa. Ali Bahol and Chrystal Jolliffe have recently offered to help.
This is sponsored by 2.9, with 2.4 and 2.3 co-sponsors and has been submitted to RAC and is on the agenda for the next RAC meeting.
Matt- preparing a work statement, currently written by 2.9 (due to COVID) focus on microorganisms, looking at what needs to be controlled to be able to get data with this combination system
conditional approval- more co-sponsors or broader range
Goal to submit by March deadline, Matt would like to come off as lead- could work more on 1895
Matt- send updated list of people working on
Chang Seo- suggested a researcher

g. **1935-RTAR** Effects of increased use of surface disinfectants and hand sanitizers on indoor air quality. Chang Seo, Kathleen, Jensen, Marilyn, Paula Submitted RTAR, it was received on August 17th. RTAR has been approved with comments – formal package has not yet been sent.

8 Proposed RTARS and other work: 30 Minutes

a. The effects of filtration on health. Caitlin Naske Champion. ~~,~~ Nick Agopian, Lexuan Zhong, with EHC interest. Kathleen and Sanjeev- volunteered to help with forms, Marilyn -help with brainstorming.
Caitlin- Had a meeting and have a rough draft RTAR, need to meet again & resend Emails (Nick didn't get Emails or draft RTAR)
At Paula to list

b. Acceptable VOC types and concentrations for inclusion in multi contaminant test gases - on hold. Ashish to champion, Kathleen, Gemma, and Paula, Chang Seo. ON HOLD

c. Venting for 3D Printers: needs champion (Paula, Gemma, Marwa, Dan, Joel Foster (2.9), Wayne Tomann (EHC), Marilyn, Matthew Stiegel, and Courtney Stanion with Brent talking to 2.4). ON HOLD pending finding proper lead TC, Not under the scope of 2.3.

d. RTAR on 62.2 unvented combustion devices (Nick brought up). They are writing RTAR on this for huge project (millions). We need to be in it. Needs a chemist.
Nick- No progress, nothing to report

e. Gases to dimers, where is the dividing line between particles and gases, nucleation. And how to remove them? Brian's idea, Gemma, Chang-Seo, Marilyn, Dean, (Marilyn)
Brian had started, hasn't had the bandwidth, still needs to be done- would be a literature study to start, eventually would be a research study
Very little literature for inside, a lot of outdoors
physical process rather than reactive species
TC 2.3 Main meeting- ask if anyone is interested?
Brian- have a mid term meeting

f. New Ideas:

(From Summer meeting) Brian- off gassing of particulates in filters, Brian had done a lit search long ago with only a few, may be newer studies/ research. Chang Seo- has a paper of SVOCs generated- will send to Brian, could include VOC and SVOC

Meng Kong looking for co sponsorship for RTAR on Residential cooking emissions (5.2?) RTAR is already written- send to Paula- need to send to Marwa & voting members

Potential ideas may come out 1579-RP - Paula to contact UT

Cleaning secondary products from the air- John Randtke, Marwa can help

John Randtke- the effects of aging for long term performance- could pass UL but not long term- case study 2, 5, 10 year old units and do testing (electronic air cleaners) Kathleen- like the idea but how do you do it without a standard? Could follow the established standard

Field application measurement for gas phase filtration equipment Bill Lull Reconciling field measurements with performance of gas equipment could also include performance of existing installations over time – what people can measure in the field and performance over time

9 Adjourn at 3:42 EST