MEETING AGENDA
TC 2.3 - Gaseous Contaminants/Removal Equipment
Standards Subcommittee Meeting
Monday, June 29th 2015, 6:00-8:00 p.m.
Room 303, Hilton Atlanta, Atlanta, GA, USA

The meeting was called to order at 6:10 pm by Chair Paolo Tronville. Present were:

Name
1) Paolo Tronville
2) Kyung-Ju Choi
3) Peter Freeman
4) Gemma Kerr
5) Chang-Seo Lee
6) Paula Levasseur
7) Bill Lull
8) Dan Mason
9) Ashish Mathur
10) Matt Middlebrooks
11) Kathleen Owen
12) Charlie Seyffer
13) Brad Stanley
14) John Zhang

1) Update on standards within scope of ASHRAE TC 2.3

a) GPC 27P "Procedures for measurement of gases in indoor environments" – *Gemma Kerr/Bill Lull*
- The document is complete. With minor revisions, it was voted to go out for public review. The review period is expected to be September 6 – October 21.

b) ASHRAE Std. 145.1-2015 "Laboratory Test Method for Assessing the Performance of Gas-Phase Air Cleaning Systems: Loose Granular Media" – *Kathleen Owen*
- This is now under continuous maintenance. The committee is working to resolve the issue of acceptable levels of background air contaminants for gases like formaldehyde which use challenge concentrations at the same level as the current background requirement.

c) ASHRAE Std. 145.2-2011 "Laboratory Test Method for Assessing the Performance of Gas-Phase Air Cleaning Systems: Air Cleaning Devices" - *Kathleen Owen*
- Also now under continuous maintenance. We discussed how to change the scope and content of the standard to allow testing of reactive media devices. Rating systems were also discussed. Currently there is not enough data to allow setting up of a rating system. Other minor changes to the Standard are under consideration.

2) ASHRAE SPCs/SSPCs/TCs/TGs/TRGs activities

a) GPC35P "Method for Determining the Energy Consumption Caused by Air-Cleaning and Filtration Devices – *Brad Stanley*
- The working draft of the document is at an early stage. Vijay gave a presentation on a simple calculation method for energy use. He proposed to use ASHRAE dust to clog the filters but there was no agreement on that. Adaptations to use this for gaseous contaminants were discussed.

b) TC 2.4 "Particulate Air Contaminants and Particulate Contaminant Removal Equipment" – *Gemma Kerr*

- The TC is sending one research project out to bid, and has a seminar on the Atlanta program. The committee is also moving to start a standard for in-duct performance testing of residential filters.

c) Standard 52.2 "Method of Testing General Ventilation Air-cleaning Devices for Removal Efficiency by Particle Size" – *Gemma Kerr*
- The committee is seeking to reduce misuse of the MERV classification and ensure full disclosure of data. Three addenda to address these issues are being prepared. The round robin RTAR was approved to go to RAC after co-sponsorship has been secured.

d) TC 2.9 "Ultraviolet Air and Surface Treatment" – *Matt Middlebrooks*
   i) SPC 185.1 "Method of Testing UVC Devices for use in air handling units or air ducts to inactivate airborne microorganisms"
   - Published 2015.
   ii) SPC 185.2 "Method of Testing Ultraviolet Lamps for Use in HVAC&R Units or Air Ducts on Irradiated Surfaces"
   - Published 2014.
   iii) – The committee is talking about a standard for ceiling-suspended disinfection units. Research into the impact of in-duct UV radiation on AHU components has been proposed. The committee is hoping to become an SSPC.

e) TC 9.11 "Clean Spaces" – *Matt Middlebrooks*
- The only thing of interest is their design guide for clean rooms. It is complete but not published. Matt is a reviewer but has not seen the document yet.

f) SSPC 62.1 "Ventilation and IAQ High Rise Buildings" – *Brad Stanley*
- Brad attended the first half of their meeting. They recently published two addenda, one on changing the definition of Environmental Tobacco Smoke, the other on e-cigarettes. The IAQP addendum is also out, it changes the method of calculation for contaminants. The committee is running a forum in Orlando on code problems with IAQP. The scope of the standard has been changed to exclude the apartments in high-rise apartment buildings (but not their public spaces). The apartments will be dealt with by SSPC 62.2.

g) SSPC 62.2 "Ventilation and IAQ Low Rise Buildings" – *Chang-Seo Lee*
- See point above.

3) Information Exchange

a) AFS – *KJ Choi*
- The Advanced Technologies in Filter Media Conference will be held October 5-8, 2015, in the Marriott Cool Springs Hotel, Franklin, TN.
- The Oil, Gas and Chemical Processing Filtration and Separation Conference will be held May 9-11, 2016, in the Marriott Westchase Hotel in Houston TX.
- The World Filtration Conference will be held April 11-16, 2016, in the International Convention Center in Taipei, Taiwan.

b) ASTM D22.05 "Air Quality" SC "Indoor Air" – *Stephany Mason*
- There was no report.

c) ASTM D28.04 "Activated carbon" SC "Gas Phase Evaluation Tests" – *Paula Levasseur*
   i) D6646 - 03(2008) "Standard Test Method for Determination of the Accelerated Hydrogen Sulfide Breakthrough Capacity of Granular and Pelletized Activated Carbon"
   - They want to go to lower challenge concentration in the test, but no changes have been implemented yet.

d) ISO/TC 142 "Cleaning Equipment for Air and Other Gases" /WG8 "Gas-phase air cleaning devices" – *Matt Middlebrooks*
   i) ISO/NP 10121-3 "Test method for assessing the performance of gas-phase air cleaning media and devices for general ventilation — Part 3: Classification system for treatment of make up air"

- This is a new project, just approved. It applies to outdoor air only. Three gases are proposed for the rating but these may need to be changed.

ii) US Technical Advisory Group (TAG) to ISO/TC 142
- The US is planning to host the 2016 Plenary Meeting at the ASHRAE HQ in Atlanta.

e) ISO/TC 146 "Air quality" /SC6 "Indoor air" – *Stephany Mason*
- There was no report.

f) ISO/TC 205 "Building environment design" – *Stephany Mason*

i) ISO 16814:2008 "Building environment design - Indoor air quality - Methods of expressing the quality of indoor air for human occupancy"
- There was no report.

g) ISO/TC 209 "Cleanrooms and associated controlled environments" (see IEST) – *Matt Middlebrooks*

i) ISO 14644-8:2013 "Classification of airborne molecular contamination" (under revision)
- There was no report.

ii) ISO 14644-10:2013 "Cleanrooms and associated controlled environments - Part 10: Classification of surface chemical cleanliness"
- This classification system is never used in the USA.

h) USGBC – *Charlene Bayer*
- There was no report.

i) CEN/TC 156 "Ventilation or buildings"

i) prEN 16798-3:2014 "Energy performance of buildings - Part 3: Ventilation for non-residential buildings - Performance requirements for ventilation, air conditioning and room-conditioning systems" (revision of EN 13779, the first standard requiring use of gas phase filter for improving the air);
- This standard is part of the set of standards intended to address the standardization needs of the recast of European Directive on Buildings Performance (the goal is to reduce 20% reduction in CO_2 emission and energy use). See the page below which shows a spreadsheet indicating the scope of the standard.

ii) prCEN/TR 16798-4:2015 "Ventilation for non-residential buildings — Performance requirements for ventilation, air conditioning and room-conditioning systems (Revision EN 13779) –Technical Report
- This is the second document generated by the revision of EN 13779 (the earlier document was too long). It is a Technical Report because it contains only the informative annexes of the previous EN 13779.

j) Other ISO TCs (and also CEN, ITRI, etc.)
- China has just released a test method for stand-alone air cleaners (GBT-18801). It targets formaldehyde.
- Dutch Building Code refers to guideline NEN 1089 (1986), which requires a ventilation rate of 5.5 l/s per person based on a level of 1000 ppm CO_2-concentration with a maximum of 1200 ppm. So depending on the situation the highest ventilation rate should be used.

4) New Business

Matt suggested that the TC 2.4 Standards Subcommittee be asked to schedule a shorter meeting (since they always finish early) to allow TC 2.3 o start their Standards meeting earlier. Gemma said that starting Standards at 5:30 pm would overlap this meeting with TC 2.3 Handbook meeting. Several people usually attend both meetings.

5) The meeting was adjourned at 7:10 pm.

Overarching		Building (as such)		Technical Building Systems										
	Descriptions		Descriptions		Descriptions	Heating	Cooling	Ventilation	Humidifi cation	Dehumidification	Domestic Hot water	Lighting	Building automation & control	PV, wind,...
sub1	M1	sub1	M2	sub1		M3	M4	M5	M6	M7	M8	M9	M10	M11
1	General	1	General	1	General									
2	Common terms and definitions; symbols, units and subscripts	2	Building Energy Needs	2	Needs									
3	Applications	3	(Free) Indoor Conditions without Systems	3	Maximum Load and Power									
4	Ways to Express Energy Performance	4	Ways to Express Energy Performance	4	Ways to Express Energy Performance									
5	Building Functions and Building Boundaries	5	Heat Transfer by Transmission	5	Emission & control									
6	Building Occupancy and Operating Conditions	6	Heat Transfer by Infiltration and Ventilation	6	Distribution & control									
7	Aggregation of Energy Services and Energy Carriers	7	Internal Heat Gains	7	Storage & control									
8	Building Partitioning	8	Solar Heat Gains	8	Generation & control									
9	Calculated Energy Performance	9	Building Dynamics (thermal mass)	9	Load dispatching and operating conditions									
10	Measured Energy Performance	10	Measured Energy Performance	10	Measured Energy Performance									
11	Inspection	11	Inspection	11	Inspection									
12	Ways to Express Indoor Comfort			12	BMS									
13	External Environment Conditions													
14	Economic Calculation													