1. **CALL TO ORDER**
   1. Introductions – NA due to virtual meeting
   2. Chair’s comments
      1. None
2. **UPDATE ON STANDARDS, GUIDELINES, AND MTGS WITHIN SCOPE OF TC 2.4**
   1. SSPC 52.2 - Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency by Particle Size (Kathleen Owen)
      1. PM - 52. 2 - Addendum B Passed and is out and part of method
      2. Proposal to add optional bio-aerosol version of 52.2. Unanimous vote – will be out for public review
   2. GPC 35P - Method for Determining the Energy Consumption Caused By Air-Cleaning and Filtration Devices (Geoff Crosby)

* No GPC 35 Summer Meeting
* RP-1734 has been delayed again.  However, we may be able to stay close to on track to our current Work Plan timeline by using procedures developed by the PI during the fall, and an in-person meeting in Las Vegas prior to the formal ASHRAE meetings
* Henry (Hank) Greist of Lennox will be joining the committee as a non-voting member following the summer meetings
* Bruce McDonald, Andy Untz, and Joe Pessa have all been added to the committee as non-voting members
* Upcoming work will be to define testing/loading procedure. Starting with ASHRAE 52.2/ISO 16890 Duct procedures, adding in KCl sub-micron loading developed at Purdue. Hope is to have this methodology by October
* Interim virtual meeting to be scheduled following RP-1734 PMS meeting at end of July
* Following this will update our Work Plan to submit to ASHRAE for the final revision of it…
* In-person committee working session (2-3 days) January 2022 in Las Vegas prior to Winter meeting, which starts January 29, 2022
* Goal is to have the GPC 35 Draft complete by the Las Vegas 2022 meeting
* GPC 35 meeting January 2022, Las Vegas, actual date TBD but if we resume our Monday schedule, will be 8:00 AM January 31, 2022

1. **ASHRAE LIAISONS**
   1. TC 2.3 Gaseous Air Contaminants and Gas Contaminant Removal Equipment (Matt Middlebrooks)
      1. SSPC 145.1 - Laboratory Test Method for Assessing the Performance of Gas-Phase Air Cleaning Systems: Loose Granular Media
         1. No activity
      2. SSPC 145.2 - Laboratory Test Method for Assessing the Performance of Gas-Phase Air Cleaning Systems: Air Cleaning Devices
         1. Kathleen working on re-write to incorporate non-sorbent units
         2. Meeting is next week
   2. TC 2.9 Ultraviolet Air and Surface Treatment (Kathleen Owen)
      1. SSPC 185.1 - Method of Testing UVC Lights for Use in Air Handling Units or Air Ducts to Inactivate Airborne Microorganisms
         1. 185.3 title purpose and scope did get approved. Membership applications have gone out. Goal is to start having regular meetings ASAP
      2. SSPC 185.2 - Method of Testing Ultraviolet Lamps for Use in HVAC&R Units or Air Ducts to Inactivate Microorganisms on Irradiated Surfaces
         1. No Update
   3. TC 5.4 Industrial Process Air Cleaning (Len Duello)
      1. SPC 199 - Method of Testing the Performance of Industrial Pulse Cleaned Dust Collectors
         1. No update – meeting is next week
   4. TC 9.6 Healthcare Facilities (Zied Driss)
      1. SSPC 170 - Ventilation of Health Care Facilities
         1. No update
         2. Zied looking for replacement
   5. SSPC 62.1 - Ventilation for Acceptable (Commercial) Indoor Air Quality (Wane Baker)
      1. New liaison – Wane Baker
      2. No update
      3. Effort now going into IAQ Guide 42P – Intent to provide guidance on how to go above minimal acceptable IAQ
   6. SSPC 62.2 - Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings (Brent Stephens)
      1. No update
   7. SSPC 90.1 - Energy Standard for Buildings Except Low-Rise Residential Buildings (Michael Corbat)
      1. No update
   8. US TAG to ISO/TC 142 - Cleaning equipment for air and other gases (Kevin Kwong)
2. Working Group 1 (Terminology)
   1. NWI for ISO 29464 revisions was approved on May 14, 2021.
      1. Submission of DIS by December 2022
      2. Publication in April 2024
3. Working Group 2 (UV-C)
   1. Approved establishing an A-liaison with IUVA (International Ultraviolet Association) in May 2021.
4. Working Group 3 (General Ventilation Filters)
   1. NWI for ISO 16890-3:2016 revisions was approved on May 18, 2021.
      1. Submission of DIS by December 2022
      2. Publication in April 2024
   2. Systematic Review of ISO 15957:2015 “Test dusts for evaluating air cleaning equipment” was closed on June 5, 2021.
5. Working Group 4 (HEPA/ULPA)
   1. Open ballot for ISO/DIS 29463-5 “High-efficiency filters and filter media for removing particles in air — Part 5: Test method for filter elements”
      1. Ballot closes at the end of June 2021
6. Working Group 5 (Dust Collectors)
   1. ISO/WD 16313-1 “Laboratory test of dust collection systems utilizing porous filter media online cleaned using pulses of compressed gas — Part 1: Systems not utilizing integrated fans”
      1. Will be submitted as a Technical Specification
   2. ISO/WD 16313-2 “Part 2: Systems utilizing integrated fans”
      1. Work in progress
7. Working Group 7 (Cleanable Filter Media for industrial applications)
   1. Activation of ISO/PWI 23742 “Test method for the evaluation of permeability and filtration efficiency distribution of bag filter media” on May 14, 2021.
   2. Systematic Review of ISO 16891:2016 “Test methods for evaluating degradation of characteristics of cleanable filter media” was closed on June 4, 2021.
8. Working Group 8 (Gas Phase)
   1. Open ballot is currently open for ISO/DIS 10121-3 “Test methods for assessing the performance of gas-phase air cleaning media and devices for general ventilation — Part 3: Classification system for GPACDs applied to treatment of outdoor air”
9. Working Group 9 (Rotary Machinery)
   1. ISO DIS 29461-1 (Static filter elements). DIS ballot approved on 1-19-2021.
   2. ISO/NP 29461-2 (Pulse filter systems). No uptake internationally. Dominance of OEM standards.
   3. ISO/NP 29461-3 (Mechanical integrity). Approved as WD on 1-19-2021.
   4. ISO/PWI 29461-4 (Static filters in marine/offshore). Approved as WD on 3-3-2021.
   5. ISO/CD 29461-7 (Fog/mist endurance test). DIS ballot will be opened in July 2021.
10. Working Group 10 (Aerosol Filters for Nuclear Applications)
    1. Joint working group with TC85/SC2/WG23 (nuclear confinement and ventilation)
    2. ISO/AWI 23137-1 “Requirements for aerosol filters used in nuclear facilities against specified severe conditions – Part 1: General requirements”
       1. Technical meeting will be held on June 17, 2021
11. Working Group 11 (Portable Room Air Cleaners)
    1. Joint working group (JWG17) with IEC/TC 59
       1. ISO TC142/JWG17 Meeting – June 22, 2021 from 7:30am-9:00am Eastern Time
       2. JWG17 Plenary on July 1, 2021 from 7:00am-9:00am Eastern Time.
    2. IEC 63086 “Household and similar electrical air cleaning appliances - Measurement of performance”
       1. Sub Working Group 1—Development of Part 2-1 on Measurement of the Reduction of Particles
       2. SWG 1 met on June 9, 2021
       3. Next meeting is scheduled for August 24, 2021 from 7:00am-9:00am Eastern Time
12. Working Group 12 (Sustainability)
    1. Waiting on ASHRAE RP-1734
13. Working Group 13 (Biological equipment for waste gas)
    1. No Updates
    2. MTG. ACR, Air Change Rate (Delegate – Bob; Alternate – Michael)
       1. No meeting
    3. TC 4.10 (Brian K)
       1. Starting a standard that includes particulates from the modeling aspect
14. **OLD BUSINESS**
    1. MTG, GPC for implementing cleaning technologies in combination; collaboration between TCs 2.4, 2.3, 2.9 (Brian K)
       1. No update
15. **NEW BUSINESS**
    1. Need liaison for ANSI/ASHRAE/ACCA 180 – Bob Burkhead
       1. No update
    2. Need liason for ASHRAE 170-2021 Ventilation For Health Care Facilities?
16. **INFORMATION EXCHANGE**
    1. AFS (John Rajala, Rahul Bharadwaj)
       * 1. Moved from 2 per year to annually
         2. Next conf Louisville May16-18, 2022
    2. CEN/TC 195 - Air filters for general air cleaning (Paolo Tronville)
    3. EUROVENT (Paolo Tronville) – No update
    4. IEST – Institute of Environmental Sciences and Technology (Vijay) – no update
    5. AHRI 680 – Performance Rating Residential Air Filter Equipment

Vincent Hwang -Last edition published 2016 – due for republishing in 2021

* 1. INDA – International Nonwovens Development Association (Tom Justice)
     1. FiltXPO
        1. Co-locate with IDEA Miami - March 28-31, 2022
  2. NAFA (Tom Justice)
     1. 2022 Technical Seminar Louisville, Ky Apr 5-8
     2. 2022 Annual Convention Coeur d’Alene, Idaho Sep 19-22
  3. ISO/TC 22/SC 34 - Road vehicles - Propulsion, powertrain and powertrain fluids (Paolo Tronville, Bruce McDonald)
     1. WG3 – Air filters
     2. Standard 12103 Part 3 – Published Standard
     3. Urban loading aerosol being developed
     4. Soot as separate (new) test aerosol in addition to ISO Fine (5011)
     5. Working on test method to utilize soot as an aerosol
  4. UL 900 (Randall Haseman)
     1. Looking at adding Carbon Filters to standard – No more
     2. Pushback on new proposal – all comments have been against – all votes were against
  5. IAQ Meetings (Jeffrey Siegel)
     1. Sep 13-17 2021
  6. FILTECH Expo and Conference
     1. March 8-10 2022 Cologne, Germany
  7. Indoor Air Conference (ISIAQ)
     1. Next will be 2022 (date not set)
  8. American Association for Aerosol Research
     1. Oct 17-21 2021 – Virtual or in person TBD
  9. International Aerosol Conference
     1. 2022 Athens Greece
  10. Asia Filtration Show / FILTREX
      1. TBD
  11. World Filtration Congress
      1. WFC 13 San Diego, Moved To Oct 2022
  12. World Congress of Particle Technology

i. No info

* 1. Korean Filtration and Separation Society
     1. 6th Annual Conference Nov 2021
  2. WFI Annual Conference

CFSS 2021 Exam – 11/30/2021 8-10 am, ET

WFI Annual Conference – 12/7-8/2021, 8am-12pm, ET

* 1. Healthy Buildings
     1. Nov 8-11 Honolulu

The focus of the **Standards Subcommittee** is on the writing and continued maintenance of standards and guidelines written for HVAC&R air filtration.  This group not only reviews ASHRAE standard and guidelines but also keeps an active reporting system of HVAC&R standards and guidelines produced by other organizations and other countries around the world.

This TC is Cognizant for the following standards

**ANSI/ASHRAE Standard 52.2: Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency by Particle Size**  
**ANSI/ASHRAE Standard 185.1: Method of Testing UVC Lights for Use in Air Handling Units or Air Ducts to Inactivate Airborne Microorganisms.**

This TC is CoCognizant with TC 7.3 lead for the following standard

**ANSI/ASHRAE/ACCA 180: Standard Practice for Inspection and Maintenance of Commercial-Building HVAC Systems**

1. **ATTENDANCE – names carried over from 9/21 Virtual**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Name** | **Company/Address** | **Email** |
| 1 | Bobby Singer | BHT |  |
| 2 | Todd Mcgrath | Glasfloss |  |
| 3 | Geoff Crosby | Lydall |  |
| 4 | Matt Middlebrooks | Filtration Group |  |
| 5 | Kia Kiantaj | LMS |  |
| 6 | Christine Sun | Waterloo Filtration Institute |  |
| 7 | Len Duello | Lincoln Electric |  |
| 8 | Don Thornburg | Camfil |  |
| 9 | Michael Corbat | Rensa |  |
| 10 | Tim Johnson | TSI |  |
| 11 | Morris Richardson | Johns Manville |  |
| 12 | Dara Feddersen | H & V |  |
| 13 | Jeni Wong | Johns Manville |  |
| 14 | Jeffrey Siegel | U of T |  |
| 15 | Justin Koczak | TSI |  |
| 16 | Mick Flom | 3M |  |
| 17 | Bernard Olsen | U of Minn |  |
| 18 | Bruce McDonald | Retired |  |
| 19 | Behnat Shoar | Lydall |  |
| 20 | Rahul Bharadwaj | Lydall |  |
| 21 | KJ Choi | Clean & Science |  |
| 22 | Keith Chesson | Parker |  |
| 23 | Jon Rajala | AAF Flanders |  |
| 24 | Bob Burkhead | BHT |  |