**ASHRAE SSPC161P Meeting Minutes (Approved)**

**June 18, 2021 – telecon format**

**Voting members present (11):**
Catherine Thibaud, Airbus (Committee Chair)
Stephen Trent, Boeing (Vice-Chair)
Judith Anderson, AFA-CWA (Secretary)
Allison Glaser, Allied Pilots Association
Aaron Engel, Fresh-Aire UV
Ben Thiesse, American Airlines
Daniel Tandoi, Vereinigung Cockpit
Frank Brehany, passenger representative
John Hall, IAMAW
Lubos Forejt, Honeywell
Richard Fox, Aircraft Environment Solutions, Inc.

**Voting members who sent regrets (2):**
Don Largent – AAF-Flanders
Tamara DiMaddalena, CUPE (term ends on 31 June 2021)

**Non-voting members present (2):**
Karen Reilly, ALPA (transitioning to voting member, 31 June 2021)
Stephanie Licht, Boeing

**Non-voting members who sent regrets (6):**
Andreas Bezold, Airbus
Chris Witkowski, AFA-CWA (organizational)
Jerome Johnston, Boeing
Karl Peterman, SPLS Liaison (term ends 1 July 2021)
Mark Weber, Staff Liaison
Timothy Ahn, Clean & Science Co.

**Guests present (2):**
Byron Jones, KSU (transitioning back to voting member, 1 July 2021)
Michael Massoni, TWU Local 556 (transitioning back to voting member, 1 July 2021)

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- Catherine Thibaud welcomed attendees and led introductions.
- Judith Anderson confirmed that we have quorum.

**Membership:**

- Catherine Thibaud reviewed the following membership changes:

  The leadership team (Catherine Thibaud and Stephen Trent) will remain for two more years. Judith Anderson will also stay on as secretary. Nobody objected. The Committee Chair term will end July 1, 2023

  Three committee members renewed their membership (Richard Fox, Byron Jones, and Michael Massoni). Karen Reilly's status has been changed from non-voting to voting. Troy Winters is a new non-voting member. Tamara DiMaddalena and Karl Peterman will roll off the committee. The membership changes are effective July 1, 2021.

**Miscellaneous:**

- Our committee last met in person on Feb. 3, 2020. We had a summer meeting on June 15, 2020. The 2021 winter meeting was not scheduled.
- A revised version of Guideline 28 will be published later this year (G28-2021).
- Catherine Thibaud shared the link for other related meetings during this summer cycle, including the TC9.3 joint research subcommittee.

**Proposal for future meetings:**

- Catherine Thibaud proposed to only have one meeting per year. Judith expressed concern with this proposal. She said that when this proposal has been raised in the past, the committee agreed to meet in person for the winter meeting and virtually for the summer meeting (since 2017). Daniel Tandoi, Richard Fox, and Lubos Forejt shared these concerns and were also in favor of maintaining our current meeting schedule.

  **Action item:** Judith Anderson will follow up with Mark Weber and Karl Peterman to ask about any implications of meeting only once per year.

  Stephen Trent agreed that it makes sense to keep the summer meeting, at least until at least RP1830 is complete.

  The committee reached consensus to keep our in-person winter meeting and to continue to meet remotely during the summer.

**Guideline 28:**

- Judith Anderson presented an overview of Guideline 28, focusing on Addendum D (organophosphates) edited by her and Stephen Trent. Stephen Trent concurred with her summary. The other addenda that will be incorporated into the revised Guideline 28

document later this year modify the definition of HEPA filtration, modify the text in the "purpose" section, correct an error in pressure units, and edit the pyrethroids section.

**Other business:**

Aaron Engel described his work for a company that manufacturers UV disinfection systems. He explained that, particularly during the current covid-19 pandemic, UV disinfection has been applied in different ways. He asked if there is a place in either the standard or guideline to describe UV disinfection applications which are currently being used as an adjunct method of cabin air disinfection (in addition to surfaces).

**Background:** Ozone production is associated with UV light in the wavelength range of 185-222nm. UV light with a wavelength of 254 nm can burn the skin (like sunlight) but should not produce ozone. Testing has shown that UV light can be effective at killing covid-19. Dosage and distance are important. ASHRAE recommends a 1.5 millijoule or 1500-microwatt dosage to achieve a three-log reduction in covid-19 particles. Dosage of UV light can be adjusted by using multiple "lamps" in the unit, varying the length of the lamps, or installing the lamp perpendicular vs. parallel to the ventilation flow ("layered strategy"), all to secure the necessary reduction in pathogens. UVC (near visible) can be used in LED lights. Its 405nm wavelength is considered safe for occupants and it has disinfecting capacity. This wavelength works on a different mechanism (overexcites organism to point of sudden rupture) and is more typically used for surface disinfection.

Catherine Thibaud noted that Airbus has tested the impact of UV disinfection on cabin interiors/surfaces. Testing has shown that, in some cases, can affect certain materials (e.g., flame retardancy, discoloration, etc.) depending on the dosage and wavelength. UV disinfection is typically used inside ducting systems and not in the aircraft cabin.

The most common application of UV filtration is to complement HEPA filters because a HEPA filter can become a biohazard, (e.g., mycotoxins, endotoxin) for maintenance workers, so a properly sized UV system can disinfect the coil and other components of the air conditioning system and the HEPA filter (depending on where it's located). Stephen Trent and Catherine Thibaud both said that they have not seen mold growth downstream of HEPA filters on aircraft because the environment is so dry, although UV disinfection may still be helpful in other ways. VOCs produced by molds will not be addressed by 254nm UV (only by 185nm UV -- ozone converter).

Catherine Thibaud asked if our documents should be expanded to include covid-19 measures in general which could include, but not be limited to, UV disinfection. Stephen Trent suggested that the TC9.3 handbook (Chapter 12 or 13 - Aircraft) may be a better place for that text and it

is scheduled for revision. Byron Jones said that, traditionally, the scope of 161 has not included disease transmission and to incorporate it would be a major undertaking.

**Action item:** Members are invited to either attend the TC9.3 committee or email Stephen Trent to join the effort to draft disease spread mitigation strategies for TC9.3 handbook chapter.

Lubos Forejt reported that ASHRAE has published position statements on preventing covid-19 transmission in indoor environments, but he was not aware of an ASHRAE standard on this subject.

Byron Jones noted that, early in the covid-19 pandemic, the TC9.3 committee released a White Paper on recommendations to mitigate covid-19 transmission on transportation vehicles. This language was forwarded to ASHRAE's epidemic task force ("epi task force") and incorporated into general guidelines for covid-19 transmission for a variety of indoor spaces, including transportation vehicles.

The main web page for the ASHRAE Epidemic Task Force guidance is:

https://www.ashrae.org/file%20library/technical%20resources/covid-19/ashrae-covid19-infographic-.pdf

The link to transportation may be found at the right hand side of the page. Or, you can go directly to the transportation section at:

https://www.ashrae.org/technical-resources/transportation

At the top of the transportation page, there are several links that are common to all of the applications. Most of these do not apply directly to transportation and actually take you away from the relevant information. You have to scroll down the page to find the relevant information. There is also a frequently asked questions section that can be accessed directly at: https://www.ashrae.org/technical-resources/transportation-faq

Note from Byron Jones: The information for transportation was prepared by a task group formed through TC 9.3 as part of the ASHRAE Epidemic Task Force. It was prepared early in the pandemic, late spring or early summer 2020. In theory, the website is updated as new information becomes available, but, in reality, there has been minimal updating. The information for aircraft was prepared as a single document by the task group. However, it was completely reorganized by ASHRAE to match the format they developed for the website. In some cases, the format and the content are somewhat mismatched. However, there was no substantial change in information content in this process.

The ASHRAE recommendations for filtration and disinfection (which is not specific to aviation or even to transportation) can be accessed here: https://www.ashrae.org/file%20library/technical%20resources/covid-19/ashrae-filtration_disinfection-c19-guidance.pdf

Also, committee members can apply to join the TC9.3 here: http://tc0903.ashraetcs.org/membership.php

**Next meeting:**

- We anticipate that our next meeting will be in-person and will be scheduled during the ASHRAE Las Vegas winter meetings: Jan. 29 – Feb. 2, 2022.

Lubos Forejt made a motion to close the meeting. Judith Anderson seconded the motion.

**Meeting adjourned.**