**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS, INC.**

**1791 Tullie Circle, N.E./Atlanta, GA 30329**

**404-636-8400**

**TC/TG/MTG/TRG MINUTES COVER SHEET**

**(Minutes of all Meetings are to be distributed to all persons listed below within 60 days following the meeting.)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TC/TG/MTG/TRG No. | | | TC02.09 | | | | DATE: | | Jan 22, 2021 | | |
| TC/TG/MTG/TRG TITLE: | | | | Ultraviolet Air and Surface Treatment | | | | | | | |
| DATE OF MEETING: | | Friday, Jan 22, 2021 | | | | | LOCATION: | | | Virtual | |
| MEMBERS PRESENT | | | | YEAR APPTD | MEMBERS ABSENT | | YEAR APPTD | | | EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE | |
| Aaron Engel | | | |  |  | |  | | |  | |
| Sam Guzman | | | |  |  | |  | | |  | |
| Henry Greist | | | |  |  | |  | | |  | |
| Brian Hafendorfer | | | |  |  | |  | | |  | |
| Richard Vincent | | | |  |  | |  | | |  | |
| Ashish Mathur | | | |  |  | |  | | |  | |
| Kathleen Owen | | | |  |  | |  | | |  | |

**DISTRIBUTION**

|  |  |
| --- | --- |
| ***All Members of TC/TG/MTG/TRG plus the following:*** | |
| TAC Section Head: |  |
| TAC Chair: |  |
| All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters: |  |
| Manager Of Standards  Manager Of Research & Technical Services |  |

**ASHRAE Technical Committee 2.9 (TC 2.9)**

**Ultraviolet Air and Surface Treatment**

**Main Committee Meeting Minutes**

**MEETING AGENDA**

**Virtual Jan-22-2021**

**Friday Jan 22, 2021 at noon - 14:00**

**These DRAFT Meeting Minutes have not been approved and are not the official record until approved by the Technical Committee at the Summer 2021 meeting**

“TC 2.9 Scope – TC 2.9 is concerned with all aspects of equipment and systems that utilize ultraviolet radiation to destroy or de-activate chemical and/or biological air and surface contaminants in HVAC systems and indoor spaces, including, but not limited to, effectiveness, safety, maintenance, and economics.”

©2019 ASHRAE. All rights reserved. This is a draft document for review only by the cognizant ASHRAE groups and other designated reviewers and is not intended for distribution to any private interests, individuals, or third parties that are not designated as ASHRAE reviewers for this document. This document may not be distributed in whole or part in either paper or in digital form without the express permission of the chair of the committee originating this document.

The appearance of any technical data or editorial material in this draft document does not constitute endorsement, warranty, or guaranty by ASHRAE of any product, service, process, procedure, design, or the like, and ASHRAE expressly disclaims same.

**Meeting came to order at noon pm**

**Henry Greist, TC2.09 Chair opened the meeting**

**Voting members Present:**

Aaron Engle Richard Vincent

Brian Hafendorfer Kathleen Owen

Sam Guzman Henry Greist

Ashish Mathur

**Roll Call of Voting Members: 7 of 7 present (quorum is met)**

**Introductions – Name and affiliation of participants**

**Review Agenda: All in favor**

**Review of Draft Minutes from 2020 Summer Meeting, Virtual Conference**

**Motion to approve the 2020 Summer meeting minutes by Kathleen Owen, 2nd by Brian Hafendorfer**

**(7/0/0/0) approved**

**ASHRAE Liaison Report: No update (Liaison not present)**

**Review Action Items from TC Chair breakfast**

* Research funding constraint due to decreased ASHRAE revenue; however, TC2.09 encouraged to submit research proposals. Proposals will be “in cue” and ASHRAE committed to fund already approved projects.
* As of Dec 2021, plan for Summer 2021 AZ meeting in person, but still planning. Resources are limited if dual meeting (virtual / in person) takes place simultaneously; priority placed on resources and there may be restrictions (e.g. by employers); will have virtual component.
* Evaluation workbook and reorganization of TC – reorganize and consolidate proposal by ASHRAE

**TC Website Report, Bob Coleman, Webmaster**

Website up to date. Basecamp is being used to share information and no issue from users are being reported.

**Subcommittee Reports**

**Research Subcommittee:** **Richard Vincent, Chair**

RTAR update**:** Upper air high-ceiling (tall spaces), UVC K-values

Both work statements conditionally approved by RAC; Dr. Steve Martin / Dr Ken Mead will respond to questions in que for funding, then send out for bid and committee approval. Estimated project time 1 year.

New Research: new RTAR’s virtual – Matt Middlebrook suggested new RTAR: biological chamber for testing of room cleaners.

GPC-37-Upper Room UVC**:** Richard Vincent, Chair

Bi-weekly meeting since pandemic; mini seminars on various topics (e.g., dosing, safety issues, other areas where in process of developing guidance); discussion limited to committee members currently. Richard commends Bill Hetzel’s efforts in support of GPC37.

**Standards Subcommittee: Jaak Geboers, Chair**

* SPC185 met several times organized by Dr. Steve Martin regarding formation of new SSPC185.3 to address air cleaning devices in room. Large consensus dealing with microorganisms SPC185 “is a good place”.
* SSPC185.3 in process of being outlined; Chair: Dr. Linda Lee, Vice-Chair: Katja Auer
* Next SPC185.3 meeting 27 Jan 2021 (9am – noon EST)

New standard topics: removal of microbial contaminants / new standard for surface disinfection; Action item w/ Dr Ashish Marthur to further investigate viability / need of these new standards

**Programs Subcommittee: Aaron Engel, Chair**

Seminars proposed / submitted:

*The right UV strategy for your application*

Henry Greist, Sam Guzman, Brian Hafendorfer, Derrick Sears, Katja Auer, Aaron Engel

Buildings and facilities have different IAQ needs. There are different strategies and application that can benefit from UV disinfection technologies. From UVs ability to help address potential airborne transmission of viral contaminants to improving HVAC equipment efficiency addressing mold and other biological growth and blowoff. Room disinfection and upper air solutions can also be used to address air and surface applications. This seminar will discuss the various UV strategies that building and facilities can employ to help address end-user’s specific needs.

*Understanding the different disinfecting wavelengths (185, 222, 254, 280,405nm)*

Ashish Mathur, Aaron Engel, TBA

Over the last year, UV disinfection technologies have enjoyed increased attention and consumer awareness for its ability to neutralize microorganisms including viruses. Not all UV wavelengths are the same. There are various wavelengths of UV light that can prove beneficial for some applications and may pose issues for others. This seminar will discuss the various UV wavelengths that can be used for buildings and facilities and when to choose one wavelength over another for the desired results.

**Membership Subcommittee: Steve Martin, Chair**

* 35 attendees at today’s meeting
* 2 voting members will roll off; begin to spread membership out and will update membership status on spreadsheet. Encourage new membership (begin with provisional membership)
* Henry Greist reached out to a dozen or more people listed as members on roster and that did not participate over the last few years; working on updating roster

**Handbook Subcommittee: Dean Saputa, incoming Chair (Dr Steve Martin rolled off)**

* Started on drafting 2023 System and Equipment Handbook
* Electronic version will be updated prior and edited accordingly (including: terminology, surface section, handheld devices, general information etc)
* Committee meets every 3 weeks and goal is to complete edits by 1st quarter 2021
* ASHRAE Journal Article on why update out of sequence published in Feb 2021 ASHRAE Journal.

**UL-1995 / UL 60335-2-40 update, Brian Rogers**

* Refer to slides presented (see attached / basecamp)

**US TAG for ISO/TC 142 Update, Dean Saputa**

Dr Shelly Miller asked to be removed from expert panel; replaced with Kathleen Owen.

ISO/TC 142 looking for members – get application through ASHRAE

**Old Business**

* NIST coming out with measurements for UV sources and calibration / test method for radiometers by Sum / Fall 2021
* IUVA / ASHRAE: MOU to lead to standards development was scheduled to be reviewed for end of Jan 2021 – opens opportunity for standards development.

**New Business**

* NEMA IBC Proposal – Discussion
* GUV Task Force
* Jeremy Yon – GE Current ([Jeremy.yon@gecurrent.com](mailto:Jeremy.yon@gecurrent.com)); National Electric Manufacturers Association (NEMA) working on changes / updates to International Building Codes (IBC) which occurs every 3 years; Currently updating 2021IBC:1201.1, 1210.4, (NEW) 1211
* Forming group and Jeremy asking for ASHRAE volunteers – if interested contact via email.

**UL1598 update by Brian Rogers**

UL1598 out for public review and public comment still open. Approval pending

**Liaisons to other committees was discussed:**

Which committees can be contacted / liaised with in the future

Plan to include with the following liaison:

Here are my notes regarding the liaison volunteers from the TC 2.9 main meeting:

SSPC 62.1, Ventilation for Acceptable Indoor Air Quality, Brian Hafendorfer

SSPC 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings, Henry Greist

SSPC 145, Test Method for Assessing the Performance of Gas Phase Air Cleaning Equipment, Matt Middlebrooks

SSPC 161, Air Quality Within Commercial Aircraft, Aaron Engel

TC2.3, Gaseous Air Contaminants and Gas Contaminant Removal Equipment, Matt Middlebrooks

TC2.4, Particulate Air Contaminants and Particulate Contaminant Removal Equipment, Kathleen Owen

TC 9.6, Healthcare Facilities, Katja Auer – meeting held after TC2.09 meeting

**Other Business**

Steve Welty ([steve@greencleanair.com](mailto:steve@greencleanair.com)) advised of new chapter on touchless disinfection in the AIHA Guideline [AIHA Guideline link](https://online-ams.aiha.org/amsssa/ecssashop.show_product_detail?p_mode=detail&p_product_serno=2382&p_cust_id=&p_order_serno=&p_promo_cd=&p_price_cd=&p_category_id=&p_session_serno=62737480&p_trans_ty=)

**Motion to adjourn meeting by Ashish Mathur and second by Henry Greist.**

**Meeting was adjourned at 2:00pm**

**Meeting Attendees from virtual meeting “chat”**

Derrick Sears, Lumalier

Katja Auer, American Ultraviolet

Keith Jordan, Sanuvox

Henry Greist, Lennox Industries

Matt Middlebrooks, Filtration Group

Steve Martin, CDC/NIOSH

Jeremy Yon, GE Current

Aaron Engel, Fresh-Aire UV

Brian Hafendorfer, Gray A&E

Prateek Shrestha, ORNL

Mike Witkowski, McHugh Engineering

Steve Welty, Green Clean Air

Benoit Despatis, Solutions Inodorus

Kevin Kwong, LMS Technologies

Shineel Vaghani, MEP Designs

Mick FLoan, 3M

Scott Sherwood, Eco-Care Corp

John Topmiller, SitelogIQ

Bill Palmer, AeroMed

Vincent Hwang, AHRI

Dean Saputa, UVResources

Kathleen Owen, Own AFC

Eric Edman, BR+A Boston

John Putnam

Sara Kampfe, Emerson

Brian Rodgers, UL

John Aykroyd, Chem-Aqua

Jaak Geboers, Signify

Richard Vincent, Mount Sinai Hospital

Larry Fletcher, RGF