

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

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TC/TG/MTG/TRG MINUTES COVER SHEET

**(Minutes of all Meetings are to be distributed to all persons listed below within 60
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TC/TG/MTG/TRG

No.

TC2.09

DATE:

January 22nd, 2024

TC/TG/MTG/TRG

TITLE:

Ultraviolet Air and Surface Treatment

DATE OF

MEETING:

January 22nd, 2024

LOCATION:

Chicago / Virtual

DISTRIBUTION

<i>All Members of TC/TG/MTG/TRG plus the following:</i>	
TAC Section Head:	Lan Chi Nguyen Weekes
TAC Chair:	Craig Messmer
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters:	Steve Hammerling (Staff Liaison) Chris Gray (Research Liaison) William Walter (Standards Liaison)
Manager Of Standards Manager Of Research & Technical Services	

Monday, January 22nd, 2024, at 10:00 AM – 12:00 PM EST

These DRAFT Meeting Minutes have not been approved and are not the official record until approved by the Technical Committee at the Winter 2024 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.”

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Review code of ethics / ASHRAE Diversity Commitment

Sign-in sheet distributed in person and on-line

Meeting came to order at 10:00 am EST

Ashish Mathur, TC2.9 Chair opened the meeting

Roll Call of Voting members: 11 of 11 voting members present (quorum is met)

Ashish Mathur, Sam Guzman, Larry Fletcher, Scott Sherwood, Richard Vincent, Robert Coleman, Matt Middlebrooks, Kevin Kwong, Steve Welty, Carl Bloomfield, Stephen Martin

Introductions – Name and affiliation of participants

3- members rolled off and 3 rolled on.

Reviewed Agenda: All in favor

Approved of Draft Minutes from 2023 Summer Tampa Meeting / Virtual Conference

Motion to approve the 2023 Winter meeting / Virtual Conference minutes by Sam Guzman, 2nd by David Kevin Kwong.

Date	Topic	Motion	Vote					
			F	Ag	Ab	NV	CV	
1/22/24	<i>Approve the 2023 Summer meeting agenda.</i>	Approve Winter 2023 TC 2.9 agenda	6	0	0	0	Y	PASS

Review Action Items from TC Chair breakfast highlights

- GTIC: Global Technical Interactions Committee. Increase ASHRAE's interactions and collaboration.
- Decarbonization continues to be a major ASHRAE focus. The new mission wanting to promote activities that reduce 50% greenhouse gas emissions by 2030 and 100% reduction by 2050. Most ASHRAE decarbonization activities are focusing on this initiative.
- Center of Excellence for Bldg. Decarbonization (CEBD) proposed Decarbonization task group. One of the topics TC2.9 must address is how does UV fit into decarbonization activities. Because UV is a "green technology" there is a positive effect on decarbonization.
- Current ASHRAE Strategic Plan to end in 2025. Seeking input on new ASHRAE Strategic Plan. For more information and to submit ideas for the strategic plan, visit: www.ashrae.org/decarb.

Webmaster: Bob Coleman

- Website is up to date. Minutes, Agenda, all posted.
- Extended invitation to the TC if anyone wants to be trained or take over responsibility. Please reach out to Bob for more information.
- We need to get other people involved. How do we encourage visitors to visit the website.
- Presently updated 2X/year.

Subcommittee Reports

Research Subcommittee: Richard Vincent, SC Chair

- ASHRAE has money to spend on research. The challenge is we must write research statements to access the funding. Presently ASHRAE has cleared up in their pipeline all the work statements. Short time frame between presenting the work statement and bidding process (about 4-months).
- ASHARE has recognized the cost of research has increased, now looking at top dollar amount you can specify to \$350K. ASHRAE looking for co-sponsorships (IE. AHRI), you may have more success in getting your research project funding approved.
- Lots of interesting topics for RTARs including:
 - Looking at rate constants. Conducting a literature search on various UV studies from the 1920s to present. Trying to confirm a set of designs for rate constants

we can use in the ASHRAE community. Presently we are extracting data and summarizing the K-values.

- We have approved the project for in-room air cleaner efficiency. We will have a closed session with TC2.9 voting members to approve the successful bidder at which time will go to contract.
- We have a project looking at UV for room (tall spaces). How to address dosages in spaces greater than 10', We put out a bid and there were no bidders. There are no chambers tall enough to handle the research as well as insufficient funds to conclude the research. Looking to modify the project or risk going out for bid again, only to have the same issue regarding tall space limitations.
- List of topics including round-robin research for 185.1. Number of topics to discuss. Feel free to discuss with Richard and Ashish.

Standards Subcommittee: Larry Fletcher, SC Chair

- We have three primary projects proposed 1) 185.3 2) 185.4 and 3) GPC37. Richard Vincet Chair of GPC37 provided the update:
 - 80% complete at this point. Getting UL standard 8802 adjustments so it works with recommendations of GPC37. Also, out of GPC37 we recommended NALMCO to start a germicidal certification program.
- 185.4 Katja Auer
 - 185.4 was submitted on Dec. 20th. Filled out form for public review. Back-log for submissions, expecting by end of February as per Steve Martin. Katherine Owen and Joy with NIST volunteered to help with public review.
- 185.3 got through all the public review comments by the 185.3 team (posted 200 comments). Currently submitted for publication on January 11th. May be in-print late February or March.
- 185.5 (not related UV) but for in-room devices (outside scope of 2.9)
- Submitting RTAR 185.1 /185.3 round-robin test RTAR (Richard Vincent)

Programs Subcommittee: Scott Sherwood, SC Chair

- For winter 2024, we submitted one program, and it was rejected.
 - We believe we were over relying on Bill Bahnfleth and Marwa Z as they were overbooked. Typically, acceptance rate is 50%.
- We had an excellent Programs meeting on January 9th. We came up with four (4) major programs (deadline Feb. 26th).
 1. In-room UVC applications for infection control.
 2. Emerging Air Purification Technologies: Induction, UVC LED, induction, FAR UV 222.
 3. ASHRAE Standards and Guidelines.

4. UVC and decarbonization (similar to original submission without same speakers)

Additional Programs

- How safe is my UVC
- Monitoring: How do I know my UVC is working properly?
- Testing to ASHARE Standard 241 (possible SafeTraces can collaborate)
- Review of all current UV standards

Handbook Subcommittee: Katja Auer, SC Chair

- Chapter 17 was revised last year and re-submitted in July/ Handbook: HVAC Systems & Equipment. We changed the title from Ultraviolet Lamp Systems to Germicidal Lamp Systems.
- Looking forward to incorporating new updates once we hear back from our submitted draft from July. ASHRAE is running behind. This coming June would like to form a new committee for the applications chapter due in 2026. Any changes can be made to the on-line version and not wait for the printed version in 2026.
- Please send an email to Ashish or Katja if you want to take part in a working group for the revised Applications chapter.

Jason was recently induction as an ASHRAE Fellow. GSA and DOE show lots of interest in UV technologies. May be slow, but we are making progress and TC2.9 has a lot to do with it.

Membership Subcommittee: Steve Martin, Chair

- Current roster is at 145
- Currently we have: Ashish & Sam rolling off the end of June 2024. In-coming Chair will be Sam in June 2024 and will need to address the voting/non-voting issue.
- We have 5-members rolling off June 2025 (Larry F, Matt M, Scott S, Steve W, Bob C).
- Steve will work with Ashish and Sam for potential new voting members that have been active participants in TC2.9
- We have a list of members and corresponding members. Ashish explains the process of how membership works. You don't have to be a member to be active in the committee except for the Vice-Chair and Chair.

Guest Katherine Ratcliff from EPA Research and Development

- 5-min. update on EPA research work. Trying to bridge the gap from lab to application and incorporate realism into testing allowing for more relevant real-world applications.
- DOE/GSA funded
- Large room / chamber projects
- Pandemic / Bioterrorism 254nm efficiency
- Impact on simulated saliva gram positive/negative

- Wet vs dry inoculants on 254nm and 222nm
- Reports focused primarily on efficiency. EPA coordinates with NIST for by-product formation.

Reports from Liaisons

- **SSPC 62.1, Ventilation for Acceptable Indoor Air Quality**, Brian Hafendorfer. Ongoing addendum. Language being impacted on UV light restricting ozone producing wavelength. Nothing directly related to biological (outside of mold). **ASHRAE Calculator IAQP updated in 2022 Version.**
- **SSPC 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings**, Henry Greist: Align 62.2 on smoking. 62.2 can't ban smoking in dwelling. How to develop wording where smoking is not encouraged.
- Kevin Kwon: **SSPC 145 and 145.4** gaseous contaminants. Kevin also chair looking at 62.1 compounds (negotiations between ASHRAE and initial contractor fell through).
- **TC9.6 (Ashish)**: Lots of overlapping activities with TC2.9. Subcommittee meeting on infectious diseases, nothing major discussed, Research committee did bring up research projects we talked about in this meeting. On-going research on humidity and temperature controls.

UL Standards

1995 EPA AIM Act deadline changed from Jan 2024 to Jan 2025 continue use UL1995. EPA sell though date Jan 2028. New UL 2-40 after Jan 2028. No changed as it relates to UV (UL1995 and UL 2-40 are the same in respect to UV).

Carl Bloomfield: UL8802 / 8803: 1-year published. Now official standard. Lots of input from GPC37. The lab measurements are under ideal conditions. 8802 will be revised once GPC37 is finalized. Main difference between 8802 and 8803 is that 8802 is for fixed fixtures in occupied spaces and 8803 would be focused on portable type devices.

International Test Method

Nicole (online): Meeting in Soule changed from an ad hoc group to "working group 14" for ISO-TC42 International Test Method for Measuring In-Duct Airborne microorganism Decontamination Effectiveness. Strictly in-duct applications. Next meeting is January 30th.

Troy from IUVA

Discussed the importance of the IUVA MOU with ASHRAE.

Richard Vincent: IES

IES has to RP standards RP 27 and RP24, CIE society updating their guidelines.

Joint IUVA C137 NEMA committee

Joint IUVA C137 NEMA committee on systems. Working on new doc C13712. Information that should be available to allow proper installation. 50% of the document is complete. Going through ANSI approval process. 410 National Electrical Code, remove requirements that talk about following manufacturers information. *Voted against.*

Erik Ennen NALMCO

GPC37 Upper air, misapplications, not certified. How do you know the system is installed properly. NALMCO (Erik Ennen) MOU with IUVA. GUV certification in the industry. To date there are 30 certified installers. Providing best practices in the industry. Focusing upper room and 222nm.

Discussion on ozone language in 62.1

On going wordsmithing on 5.9.2 ozone device language.

Social Media Outreach Sub-committee (Aaron Engel)

Discuss during our next meeting, ideas on how we can use social media to better TC2.9 position and awareness.

Motion to adjourn by Ashish Mathur. Meeting was adjourned at 12PM