

**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. TC-2.9 DATE: March 14, 2018

TC/TG/MTG/TRG TITLE: Ultraviolet Air and Surface Treatment

DATE OF MEETING Jan 22, 2018 LOCATION: Chicago, IL

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
BRIAN HAFENDORFER	7-1-16			
DAVID SKELTON	7-1-16			
SAM GUZMAN	7-1-14			
BENOIT DESPATIS	7-1-15			
ASHISH MATHUR	7-1-16			
STEVE MARTIN	7-1-16			
JAAK GEBOERS (VNQ)	7-1-16			
HENRY GREIST	7-1-16			
RICHARD VINCENT (VNQ)	7-1-16			
CHANG-SEO LEE	7-1-16			

**DISTRIBUTION**

<i>All Members of TC/TG/MTG/TRG plus the following:</i>	
TAC Section Head:	<u>Mr Elbert G Phillips</u>
TAC Chair:	<u>Mr Michael Bilderbeck</u>
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters:	Mr Daniel Robert Dr Pawel Wargocki, PhD Mr James Bochat Mr Florentino Roson Rodriguez Mr Bryan M Holcomb Mr Cyrus H Nasser
Standards Liaison Staff Liaison	Stephanie Reiniche Mike Vaughn

**2018 ASHRAE WINTER Conference**

Chicago, IL

Monday, January 22, 2018 10:00 AM – 12:00 pm

Room: Kimball, Palmer Hilton

TC2.9 Scope – TC2.9 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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<b>Voting Present</b>	<b>8</b>	
<b>Voting-Not-Present</b>		
<b>Non-Quorum No Present</b>	<b>2</b>	
<b>Total Voting</b>	<b>10</b>	

Meeting called to order at 10:00am by Brian Hafendorfer  
Reviewed ASHRAE Code of Ethics – see ashrae.org  
Changes to Meeting minutes- approved with changes (6 yes, 1 abstain)  
ASHRAE reminds that there is a Code of Ethics- ashrae.org

**Chair breakfast report:**

Brian Hafendorfer shared Chair-breakfast information.  
106 slots for programs 17 conf papers, 67 seminars, 11 forums/panels, debates

Conference papers and seminars are easiest way of getting into Technical Program  
Work with track chairs  
Tracks for 2018 Houston and Atlanta announced – 9 tracks for Houston, 8 tracks for Atlanta  
Calling for papers 1920-2000-to celebrate 120 years  
- TC 2.9 can consider submit paper about early developments of UV (due Sept 2018), no more than 30 pages double spaced  
Information available on Basecamp (internal share to TC members) for file storage

Action Item: Brian to send Chairs Breakfast note to basecamp

**TC Website:**

Has been updated  
Basecamp App available

### **Subcommittee Reports:**

#### **Standards Committee**

Jaak Geboers

Both standards are published

185.2 to be republished in 2020- will wait for round robin test to update standard

185.1 to be republished in 2019. Steve to work on Statistical section

#### **Program Report:**

Sam Guzman

Two submissions for Chicago- both rejected

SSPC 145 ended up including this topic in their subcommittee meeting

Potential submissions for Houston and beyond:

1. Current Emerging Applications in Industries “**To UV or not to UV**”- to be resubmitted with Scott’s help with change in Title & Work with Track Chair submit by March

Track: Fundamental & Applications

Cannabis- Gene, Wally

Fitness and health care centers- Aaron

Healthcare – Ashish

Legionella- Scott

2. Track 2- Fundamentals and Applications  
Cosponsor forum with TCs/SSPC185, 145, 2.3, 2.4, 9.6 – should we form a MTG is there an interest to study /have guidelines for combination technologies. This is a possible RTAR for an innovative technology project.
3. Possibility of short certification/courses on UV- recommend for Ashrae Learning Institute (ALI). Sam to reach out to Bill Bahnfleth
4. Establish a GPC to create a guideline for Design, Installation, Commissioning , Operational & Maintenance of UV systems  
Jason Degraw- TRG 2 requesting participation for Seminar on Security- Possible speaker – Steve Martin,
5. Possible Seminar on Safeguarding HVAC system- discuss risk of Legionella- Scott, Steve Welty,

### **Research subcommittee:**

Richard Vincent chaired meeting.

Roundrobin 185.2- RP 1841 approved for WS

Cosponsor SSPC 62.1 on Electronic Air Cleaners- also approved

RP-1724 – Study of the HVAC System Photo degradation Caused by the Low Level UVC Light Irradiance Used for Coil Maintenance and Air Stream Disinfection: **Final report Approved-** in process for publication ASHRAE Building Environment Journal

New RTARs discussed

- 1) Interaction of UV and filters
- 2) Study of k values- to be submitted cosponsored- TC 9.6
- 3) How to dose high ceilings for Upper Air- cosponsor - TC9.6
- 4) MTG/MDTR for multi TC for evaluation of combination of technologies

### **GPC 37 Report: Richard Vincent and Steve Martin, Co-Chairs**

Upper Air UVGI- about 85% complete. Looking for Application pictures and working on safety sections.

RTAR being developed based on this guideline work for application of UV for higher (10-12) ft. ceilings

Steve Welty- wrote an article for American Industrial Hygienist Association- wrote a section on Upper Air UV using info from the Guideline document  
Plan to complete guideline by end of 2018

### **Handbook Subcommittee:**

Steve Martin

Applications Chapter 60 for 2019 to be worked on. Due date is Aug 31, 2018

Recommended Updates to 5 sections

- Incorporate Dayton degradation study info
- Penn state research findings/reference
- Add a section on UV LEDs
- Pulsed Xenon lamps
- Update UL 1995 info in handbook
- Marijuana inclusion- Benoit

Systems & Equipment Chapter 17 to be updated in 2020.

### **Membership Subcommittee:**

Benoit Despatis-Paquette

10 voting

Sam and Benoit rolling off

8 voting

Aaron to be added as voting member in June

To join- go to Ashrae.org- Join in TC, apply to become a corresponding member

Kathleen to be added back as corresponding member.

July 1 Dave Skelton to roll on Chair after summer mtg, Ashish to roll on as Vice-Chair, Benoit Secretary

**IAQ guideline:**

62.2 P – new guideline

**Liaison opportunity for 90.1**

Liaison for TC 5.10- Scott

**ISO/TC Report** Brian Hafendorfer

Brian is currently advisory panel chair for USTAG 142

Zero activity

**Other/New**

Add more docs such as RTARs to TC 2.9 website

Share knowledge (create a document) on “Airborne legionella- can it be pulled back into the building”.

- Recent outbreak in Disney/Anaheim
- Outbreak in Quebec
- Outbreak in 1978.

Meeting adjourned at 9:42 am