



**MINUTES**

**TECHNICAL ACTIVITIES COMMITTEE**

2021 Virtual Annual Meeting

**May 26, 2021 & June 21, 2021**

*Note: These draft minutes have not been approved and are not the official, approved record until approved by the Technical Activities Committee.*

**TABLE OF CONTENTS**  
**TECHNICAL ACTIVITIES COMMITTEE**  
**May 26, 2021 & June 21, 2021**

PRINCIPAL MOTIONS..... iii

ACTION ITEMS.....iv

LIST OF ATTACHMENTS .....vi

LIST OF ACRONYMS..... vi

A - CALL TO ORDER & INTRODUCTIONS .....1

B - ADDITIONS AND/OR CHANGES TO THE AGENDA ..... 1

C – ACTION ITEMS TRACKING & PRELIMINARY REVIEW OF ACTION ITEMS..... 1

D – APPROVAL OF MINUTES ..... 1

E - CHAIR’S REPORT ..... 1

F - BOD EXOFFICIO & COORDINATING OFFICER REPORT ..... 3

G – VICE CHAIR’S REPORT ..... 3

H – MTG SECTION REPORT ..... 3

I – SECTION HEADS.....4

J - POTENTIAL MOTIONS READY FOR TAC CONSIDERATION.....4

K – SPECIAL ACTIVITIES COORDINATOR.....4

L – OPERATIONS COORDINATOR .....4

M - TRAINING COORDINATOR .....4

N –REVIEW OF AGENDA..... 5

O – VIRTUAL MEETINGS IN OUR FUTURE.....5

P - SECTION HEAD REPORTS.....5

Q – UNFINISHED BUSINESS.....8

R – NEW BUSINESS ..... 8

ADJOURN.....8

**PRINCIPAL MOTIONS  
TECHNICAL ACTIVITIES COMMITTEE  
May 26, 2021 & June 21, 2021**

| <b>No.</b> | <b>Motion</b>  | <b>Status</b> |
|------------|--|---------------|
| 1          | TAC convert MTG.OBB to a new TC 7.10, Occupant Behavior in Building Design and Operation, with a scope as follows: | POSTPONED     |
| 2          | TAC approve the TC 6.9 scope change as follows:  | PASSED        |
| 3          | TAC approve formation of a new Task Group (TG) 2.RAST with the title and scope as follows:                         | PASSED        |

\* \* \* \* \*

**TECHNICAL ACTIVITIES COMMITTEE****May 26, 2021 & June 21, 2021**

| <b>Action No.</b> | <b>Responsibility</b> | <b>Summary of Action Item</b>  | <b>Status</b> |
|-------------------|-----------------------|--|---------------|
| 1                 | Staff                 | add ASKTAC alias email to TAC web page and promote   |               |
| 2                 | TAC                   | Develop a form and guidelines (time, format, etc.) for open mic session to assure productive and actionable feedback                 |               |
| 3                 | Staff                 | Remove retired MTGs from website   |               |
| 4                 | Payne                 | Explore MOP changes to expand role of TC webmaster to include administration of TC basecamp  |               |
| 5                 | Messmer               | Send Maston details on number of virtual meetings each TC held this year using data from TC Dashboard.                               |               |
| 6                 | Cohen                 | Work with TG2.RAST leadership to develop clear tasks and timelines   |               |
| 7                 | Staff                 | Publish and send notices for membership on new TG 2.RAST. Collect a list of prospective members and send to TG leadership for review |               |
| 8                 | Staff                 | Schedule a planning meeting for TAC and TC 2.10 workplan authors to review plan and determine next steps. .                          |               |
| 9                 | Staff                 | Prepare letter ballot for TAC MOP changes  |               |
| 10                | Smith                 | E-mail and post Vision 2022 to basecamp and asked all TAC members to review and give feedback  |               |

**December 8, 2020 & January 27, 2021**

| <b>Action No.</b> | <b>Responsibility</b> | <b>Summary of Action Items</b>  | <b>Status</b> |
|-------------------|-----------------------|---|---------------|
| 1                 | TAC                   | Consider requesting information on how TC MBOs contribute to ASHRAE strategic plan in TC activity sheet | Complete      |

|    |  |   |          |
|----|--|---|----------|
| 2  | TAC  | TAC should consider and get feedback on hybrid (virtual and in person) meeting options for when face to face meetings resume.   | Complete |
| 4  | Meredith   | Send information on HVAC Simplified update to Huber to consider MTG (if TC 9.1 is not willing to lead (see Action Item #13).    | Complete |
| 5  | Payne,<br>Hermans,<br>Leach,<br>Goldschmidt,<br>Meredith | Develop proposal for procedures and structure for FGs to present motions to TAC to force action or response on FG ideas.        | Complete |
| 6  | TAC  | Review and comment on the training modules posted on the Basecamp Site (ASHRAE TAC – Leadership Training)                       | Complete |
| 7  | TAC  | Develop a generic FG meeting agenda   | Ongoing  |
| 10 | Staff  | Review the Provisional Corresponding Member (PCM) process for TCs to determine if this can be automated without email to staff. | Complete |
| 11 | TAC  | Develop guidance for FGs on what information should be on TC website vs. what information should be on TC Basecamp              | Complete |
| 12 | Staff  | Merge TC 10.2, 10.5, 10.8 websites archiving old TC information.  | Complete |
| 14 | Payne  | Review and propose changes to TAC MOP and TC MOP for a future meeting.  | Complete |

**LIST OF ATTACHMENTS**

- ATTACHMENT A:** TAC 20-21 MBOs  
**ATTACHMENT B:** BOD Ex-O presentation  
**ATTACHMENT C:** Goldschmidt presentation on training blocks  
**ATTACHMENT D:** TC chairs breakfast slides and reminders  
**ATTACHMENT E:** TG2.RAST proposal  
**ATTACHMENT F:** Proposed MOP changes

**LIST OF ACRONYMS**

|        |   |
|--------|---|
| AI     | Action Item   |
| ASHRAE | American Society of Heating, Refrigerating and Air-conditioning Engineers |
| BOD    | Board of Directors  |
| CNV    | Chair Not Voting  |
| DOT    | Director of Technology  |
| ECC    | Electronic Communications Committee                                       |
| EHC    | Environmental Health Committee  |
| ETF    | Epidemic Task Force   |
| ExCom  | Executive Committee   |
| Ex-O   | Ex-Officio  |
| FG     | Functional Group  |
| HVAC   | Heating, Ventilating & Air Conditioning                                   |
| IEQ    | Indoor Environmental Quality  |
| MBO    | Management by Objectives  |

|      |                                   |
|------|-----------------------------------|
| MOP  | Manual of Procedures              |
| MOTS | Manager of Technical Services     |
| MTG  | Multi-disciplinary Task Group     |
| PCM  | Provisional Corresponding Member  |
| PDH  | Professional Development Hours    |
| RAP  | Research Advisory Panel           |
| ROB  | Rules of the Board                |
| RTAR | Research Topic Acceptance Request |
| SH   | Section Head                      |
| TAC  | Technical Activities Committee    |
| TC   | Technical Committee               |
| TG   | Task Group                        |
| TPS  | Title Purpose Scope               |
| TRG  | Technical Resource Group          |

**MINUTES**  
**TECHNICAL ACTIVITIES COMMITTEE**  
**May 26, 2021 & June 21, 2021**

**MEMBERS PRESENT:**

Dustin Meredith, *Chair*  
 Larry Smith, *Vice Chair*  
 Jon Cohen, *Section 2*  
 Stuart Dols, *Section 3*  
 James Bennett, *Section 4*  
 Kevin Marple, *Section 5*  
 Sathesh Kulankara, *Section 7*  
 Kevin Mercer, *Section 8*  
 Brad Cochran, *Section 9*  
 Charles Henck, *Section 10*  
 Carl Huber, *Section MTG*  
 Victor Goldschmidt, *Special Activities Coordinator*  
 Craig Messmer, *Training Coordinator*  
 Vance Payne, *Operations Coord.*  
 Rick Hermans, *BOD Ex-O*  
 Bill McQuade, *Coordinating Officer*

**GUESTS:**

Doug Cochrane  
 Dan Dettmers, *Incoming Member*  
 David John  
 Sarah Maston  
 Tim McGinn, *Incoming Coordinating Officer*  
 Corey Metzger, *Incoming Member*  
 Kathleen Owen

**ASHRAE STAFF:**

Steve Hammerling, *MOTS*  
 Stephanie Reiniche, *DOT*  
 Tara Thomas, *AA*

**MEMBERS NOT PRESENT:**

Jennifer Leach, *Section 1*  
 Dawen Lu, *Section 6*

\*\*\*

**A. CALL TO ORDER & INTRODUCTIONS**

Chair Meredith called the meeting to order at 10:00 AM EDT on Wednesday May 26<sup>th</sup>. Members and guests introduced themselves. Meredith referred all to the commitment of the ASHRAE Code of Ethics:

*In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interests. (See full Code of Ethics: [www.ashrae.org/about-ashrae/ashrae-code-of-ethics](http://www.ashrae.org/about-ashrae/ashrae-code-of-ethics) )*

**B. ADDITIONS AND/OR CHANGES TO THE AGENDA**

The agenda was sent ahead of the meeting. Staff was asked to add "Breakfast Meeting Discussion to E. Chair's Report.

**C. ACTION ITEM TRACKING AND PRELIMINARY REVIEW OF ACTION ITEMS**

A summary of action items are included in these minutes.

**D. APPROVAL OF MINUTES**

a) Virtual Winter Meeting minutes were approved at Spring Meeting (emailed March 27)

**E. CHAIR'S REPORT**

- a) Disposition of Motions from Last Meeting Requiring Higher Body Approval:
- No motions from the TAC Winter or Spring Virtual Meetings required higher approval
- b) New or Carryover Action Items Assigned to TAC by TechC:
- None

- c) New Information Items:
1. Virtual Meeting updates  
The ASHRAE virtual Annual meeting is nearly underway with many TCs meeting before the TAC Part B meeting .TCs have adapted wonderfully to the use of all virtual meetings.
  2. ASHRAE 2019-2024 Strategic Plan
    - (1) Initiative 3 (Organizational Streamlining)  
TACs efforts to help merge TCs is ongoing. No merges are expected to come forward at this meeting.
    - (2) Initiative 2 (Resilient Buildings and Communities)
      - (a) TC 2.10 subcommittee  
The TC 2.10 subcommittee has met and developed a work plan. However, more work is needed to meet the goals of the strategic plan. TC 2.10 spearheaded this task by holding a series of meetings cumulating in a March roadmap that included short, medium, and long-term goals. Comments were subsequently requested on the plan. The next step is to broaden this initiative to other FGs on TAC and a kickoff meeting is being scheduled to occur soon after the Annual meeting.
  3. Research Strategic Planning  
A draft research strategic plan has been developed by RAP. Approval is on the Tech Council agenda for June 4. A RAC representative would be asked to present highlights at the TC breakfast.
  4. Region Referrals – No new referrals assigned to TAC yet.
  5. TAC support of Task Forces
    - (1) Epidemic task force (ETF)  
Incoming chair Smith will be TAC liaison for next Society Year. TCs are encouraged to continue to be a part of ETF related activities
    - (2) Decarbonization Task Force  
TAC will learn how to help or participate in this group's activities. Kevin Mercer volunteered to help on McQuade's subcommittee and would reach out to Alice Yates ([ayates@ashrae.org](mailto:ayates@ashrae.org)) to offer his participation. Goldschmidt had an interest as well and would reach out to Don Colliver who is a member of the Task Force.
    - (3) International Standards Actions Task Force  
Messmer reported he is the TAC representative on a new ASHRAE International Standards Task Group. The aim of the Task Group is to grow ASHRAE's influence in the global standards community. The group has met twice so far and Messmer would keep TAC updated.
  6. Electronic Communications Summary  
Smith & Messmer attended office hours seminar from Communications Committee. This committee has developed a great deal of training materials that could be made available to TCs. The Communications Committee chair would be asked to attend TC breakfast for a brief presentation. It was recommended that  
  
There was an idea to broaden the responsibilities of the webmaster to a communications subcommittee chair that would oversee websites, basecamp and all such tools for the TC.
- d) Breakfast Meeting Agenda Review  
Meredith noted he was considering changing liaison reports at breakfast and would collect a

- couple of slides from each committee with important information for TAC to present. Chairs would be asked to attend to address questions if needed.
- e) 2020-2021 MBOs  
A final report on MBOs is included as **Attachment A**.
- F. BOD EX-OFFICIO & COORDINATING OFFICER (Hermans & McQuade)  
Hermans presented the BOD Ex-O (**Attachment B**).
- G. VICE CHAIR'S REPORT (Smith)
- a) Formalize TC continuation procedures– **MBO 1**
    - 1. FG Evaluation Workbook  
The new FG evaluation workbook was presented at the Winter Meeting. This is a Winter Meeting activity, but TAC will summarize again at the TC breakfast. This workbook is on the TAC basecamp with results and feedback from Winter Meeting
  - b) [ASKTAC@ashrae.net](mailto:ASKTAC@ashrae.net)  
This email alias is live and working. Smith sent notice to various committees, but all are welcome to spread the word. A short video about the alias will be included in TC Breakfast. Staff was asked to add to TAC web page and promote (**Action Item 1**).
  - c) Open mic at upcoming TAC meetings (virtual or in-person)  
An open mic or open invite for TC members to address TAC would be installed for future virtual and in person meetings. TAC will announce at TC breakfast. It was suggested that TAC develop a form and guidelines (time, format, etc.) for open mic session to assure productive and actionable feedback (**Action Item 2**).
  - d) Section Head assignments for SY 21-22  
Smith and Messmer would make section head assignments at conclusion of Annual Meeting.
- H. MTG SECTION HEAD (Huber)
- a) Issues/Status of MTGs:
    - 1. MTG.ACR – Air Change Rate  
The work of this MTG continues.
    - 2. MTG.BIM – Building Information Modeling  
No update was reported.
    - 3. MTG.CEA – Controlled Environment Agriculture  
This MTG continues to be very active.
    - 4. MTG.CYB - Cybersecurity for HVAC Systems and Related Infrastructure  
No update was reported.
    - 5. MTG.EBO – Effective Building Operation  
No update was reported.
    - 6. MTG.HCDG – Hot Climate Design Guide  
Huber noted the circumstances that allowed HCDG to restart without TAC review should be reviewed and addressed in procedures as appropriate.
    - 7. MTG.HWBE – Health and Wellness in the Built Environment  
MTG sent draft final report to Environmental Health Committee for review and comment.
    - 8. MTG.IAST – Impact of ASHRAE Standards and Technology on Energy Savings / Performance

Staff was asked to remove retired MTGs (IAST, BD) from website (**Action Item 3**).

9. MTG.LowGWP – Alternative Lower Global Warming Potential Refrigerants
  10. MTG.OBB – Occupant Behavior in Buildings  
MTG requested converting to a TC. A motion can be expected in Part B TAC meeting.
  11. MTG.RAC - Refrigeration and Air Conditioning (RAC) Plant Assessment Guide  
No update was reported.
  12. MTG.VIC Ventilation for Infection Control (VIC)  
This MTG continues their work. No specific updates at this time.
- c) Proposed New MTGs
1. There was a MTG proposal being discussed related to active filtration. This developed into a TG that would be submitted for Part B TAC meeting.
- I. SECTION HEADS
- 1) Proposed New TG/TRG/MTGs
    - a) TG on active filtration  
A proposal for a new TG on Active Filtration in Section 2 is in the works. TAC will need to help assure that all interested parties are included and can engage.
    - b) FG accomplishments to highlight in breakfast  
Meredith asked Section Heads to send list before next week.
- J. POTENTIAL MOTIONS READY FOR TAC CONSIDERATION
- a) none
- K. SPECIAL ACTIVITIES COORDINATOR (Goldschmidt)
- a) Establish effective and modern leadership training – **MBO 5**
    1. Status of 4 blocks of education  
Goldschmidt gave short presentation (**Attachment C**) on efforts to develop leadership training. TAC members thanked VG for his effort. These are on basecamp and all are strongly encouraged to watch these educational blocks. Smith is seeking PDH credits or as broad as distribution to ASHRAE membership as possible.
- L. OPERATIONS COORDINATOR (Payne)
- a) Proposed MOPs, ROB and Reference Manual Changes?
 

Consideration of motions change sections 7 and 3 in the TAC MOP would be considered at Part B of meeting. Tech Council can consider approval at their June 23 meeting.

TAC discussed evaluating the role of TC webmaster and whether it should be expanded to include administration of TC basecamp as well. An alternative would be new TC position. TAC could develop procedures for MOP when a path is decided on down the line. Payne agreed to explore what changes might be (**Action Item 4**).
  - b) TC PPT template materials
    1. Payne is working on PPT slide template for TCs to use for virtual meeting agendas, populated with all of the housekeeping items that can be generalized for all the TCs. He plans to make available to TAC after meeting and eventually to all TCs as a resource.
- M. TRAINING COORDINATOR (Messmer)
- TAC discussed the draft breakfast agenda and reminder handout sent before the meeting. The agenda was finalized. The presentation slides and reminder handout is included with these minutes as **Attachment D**.

Messmer is developing a check list with checklist with links for videos on various topics to be a training tool for Section Heads and TCs. This would be most effective for Section Head onboarding and TC training as much of the materials already exist, they just need to be collected and made available. The training from the Communications Committee is an example of materials already out there.

## RECESS

### N. REVIEW OF AGENDA

TAC reconvened for Part B of the TAC Meeting. An agenda item **N. Review of Agenda** was formally added to consider additional items. The following were added as well:

- O. "Virtual Meetings in Our Future" – Smith/Maston

### O. "Virtual Meetings in Our Future" – Smith/Maston

Maston is looking for information on how TCs have been doing since going virtual. A group is looking at how TCs will utilize virtual meetings in between or at ASHRAE meetings with a gradual return to face-to-face meetings. TAC is recommending quarterly virtual meetings.

There are opportunities and strategic conversations on what TAC and TCs are or could be doing about e meetings, tools, etc. what can be done to increase speed of ASHRAE, encourage FG coordination, productivity, etc. Can e-meetings be used to increase participation (hybrid meetings)? Maston asked for examples of how or what has been successful, should be continued, etc.

Section Heads reported that most of their TCs have adapted well. TCs have either utilized virtual meetings in between ASHRAE meetings or continued as they normally have and not met. TCs are utilizing tools like e-meetings, basecamp, etc.

It was noted at least one TC (7.4) had not held a virtual meeting since the pandemic started.

Messmer added that the activity form includes questions for data on FG use of virtual meetings and will have data for a report to share with Maston (**Action Item 5**).

### P. SECTION HEAD REPORTS

Section Heads were asked to present highlights only from their written reports submitted earlier. Any motions from TCs to Section Heads should be brought up in report.

- Section 1 – Meredith, Smith and Messmer split the TCs as acting section heads for this meeting. The section meeting was held. DM, LS, CM stepping in as section head for assigned Section1 TCs. Section Meeting held.
- Section 2 – The TC 2.10 Resiliency activities and work plan were discussed earlier. The new TG was already discussed. 3 of the 5 TCs have met as of this meeting.
- Section 3 – Dols noted just 2 of the 5 TCs have met but all will meet shortly. Dols reported some issues with the activity form for Messmer to review. It was reiterated that members attending meetings remotely should be recorded as having attended virtually on the Activity Form.
- Section 4 – Bennett noted receiving feedback on a hybrid meeting at future meetings and concerns about technology at face-to-face meetings being capable of facilitating this hybrid style. Bennett reported information on TC MBOs in his section.
- Section 5 – Marple reported 5 of 10 TCs having met already. He noted TCs in Section 5 are working on aligning mission with strategic plan. 1 TC changing leadership midterm. Noted multiple versions of code of ethics. TC agenda format would be helpful and updating template as code is updated.

- Section 6 – TC 6.9 approved a scope change for TAC’s consideration later in meeting.
- Section 7 – Kulankara reported 3 of 7 TCs met last today. One missed quorum. TC 7.4 may need some help as they haven’t met since the Orlando Meeting. The roster is not updated and the current chair is rolling off and the vice chair is not continuing. He may poll voting members to see if a chair can be found. Kulankara suggested a template to help TCs make and align their MBOs to strategic plan.
- Section 8 – Mercer noted there were no motions or other items needing TAC attention at this time.
- Section 9 – Some TCs had noted workload concerns from an administrative standpoint and suggested moving the FG eval to Annual meeting. Smith noted the MOP could be changed to do this. Cochran noted a number of TC scope changes are in works but nothing for TAC at this time.
- Section 10 – Henck noted the 10.2 merger is ongoing. A meeting for the new merged TC being scheduled. Corresponding Members are being asked to reapply as Provisional Corresponding Members (PCM) to get on new roster which is slowing things down.
- Section MTG – Huber noted the MTG section meeting is this Friday. There were no updates from the MTG report in TAC’s Part A meeting.

Some thought can be given to how to get TCs to have MBOs and to have them align with the ASHRAE Strategic Plan. Changes to the Activity form could be helpful. Changes were not made for Annual meeting but could be considered later.

- a) New motions that TAC must consider at this meeting from TCs in section?
1. Proposed New TC, or Merges, or Disbands?

It was moved (Huber) and seconded (Dols) that,

- (1) TAC convert MTG.OBB to a new TC 7.10, Occupant Behavior in Building Design and Operation, with a scope as follows:

#### **TC 7.10, Occupant Behavior in Building Design and Operation**

Technical Committee 07.10 is concerned with developing data, methods, tools and case studies to improve understanding of occupant behavior in building design and operation, and meeting individual needs of indoor environmental quality (IAQ, thermal, visual and acoustic comfort), health, productivity, as well as improving occupant interactions with building energy and control systems to reduce energy use and carbon emissions in buildings.

**BACKGROUND:** TAC suggested the striking of the last five words of the scope. The title and scope of the MTG.OBB is shown here for comparison:

~~MTG.OBB – Multidisciplinary Task Group, Occupant Behavior in Buildings~~

~~MTG.OBB will coordinate TC/TG/TRG technical activities to help implement the recommendations from this MTG. This includes coordinating efforts in education, modeling, research, standards, marketing, advocacy, and fund raising within ASHRAE. Research project initiation as the sponsoring committee is included in the scope of this MTG.~~

~~Occupant behavior in buildings refers to occupants’ comfort preference, presence and movement, and interactions with building systems that have impact on performance (thermal, visual, acoustic, and IAQ) of buildings. The interactions include adjusting the thermostat settings, opening or closing windows, dimming or turning on/off lights, pulling up or down window blinds, switching on or off plug loads, and consuming domestic hot water.~~

**MOTION #1: POSTPONED**

The motion was postponed until next TAC meeting. The preference was to ask MTG.OBB is changes to scope were OK.

## 2. Proposed Name and Scope Changes

It was moved (Henck) and seconded (Dols) that,

(2) TAC approve the TC 6.9 scope change as follows:

*TC 6.9 is concerned with the storage of thermal energy for use in cooling, heating and/or ~~cooling~~ refrigeration applications and with charging or discharging this energy at a controlled ~~controllable~~ rate. The TC collects and disseminates information on thermal energy storage configurations, processes, materials, containers, components, systems and costs as well as ~~an~~ analytical methods for evaluating, and predicting, commissioning and optimizing the various benefits of thermal energy storage systems on-site and beyond performance.*

**BACKGROUND:** TC 6.9 approved the scope change at their last meeting.

**MOTION #2: 13-0-0 CNV - PASSED**

## 3. Proposed New TG/TRG/MTGs

It was moved (Goldschmidt) and seconded (Dols) that,

(3) TAC approve formation of a new Task Group (TG) 2.RAST with the title and scope as follows:

**Title:** TG Reactive Air and Surface Treatment (Check other doc for wordsmithing)

**Scope:** TG is concerned with the knowledge, advancement, effectiveness, and safety of Reactive Air and Surface Treatment and associated technologies for air cleaning and surface disinfection. This TG will be responsible for Photocatalytic Oxidation, Ionization, Hydrogen Peroxide, and other associated or new technologies not specifically covered by an existing TC. In particular, devices using only ultraviolet radiation to destroy or inactivate biological air and surface contaminants in HVAC systems and indoor spaces are not included.

**BACKGROUND:** The proposal with background information, list of tasks, goals, and a potential member are shown in **Attachment E**. The TG would be led by David John and Kathleen Owen.

**MOTION #3: 13-0-0 CNV - PASSED**

Section Head 2 would work with TG leadership to develop clear tasks and timelines (**Action Item 6**).

Development towards a uniform method of test standard was identified as a top priority for this group. Staff would publish a notice for membership and collect a list of prospective members for John and Owen to review (**Action Item 7**).

## b) Updates on any Special Assignments assigned to TCs in section

(1) Resiliency & TC 2.10 (Cohen)

TC 2.10 representatives have developed a workplan to address the ASHRAE

Strategic Plan Initiative on Resiliency. Staff would schedule a planning meeting to review TC 2.10 workplan with authors and determine next steps (**Action Item 8**). Authors noted they need TAC help in getting members and other resources to contribute to the work plan.

(2) ASHRAE Publication – HVAC Simplified (TC 9.1)

Henck reported that a subcommittee of TC 9.1 is now working with staffer Cindy Michaels to update the publication. TAC can consider issue closed.

- c) Feedback on Effectiveness of TC Activity reporting tool  
Section Heads noted many TCs are still meeting. All were asked to assure TCs to submit activity forms.
- d) Feedback on New TC Roster Update System – Phase 1 (Online form)  
Feedback was generally given in Section Reports.
- e) Status of Websites in Section  
Feedback was covered by section heads in section reports and activity sheets.

Q. UNFINISHED BUSINESS

- a) TAC MOP 7. Contacts outside the Society between ASHRAE and other organizations
- b) TAC MOP 3. Membership Categories

Smith suggested TAC MOP changes (**Attachment F**) be considered via email ballot after meeting. Staff would prepare a letter ballot (**Action Item 9**).

R. NEW BUSINESS

Outgoing TAC chair thanked other outgoing TAC members Carl Huber, Jennifer Leach and Dawen Lu and Bill McQuade (CO).

Incoming TAC chair Larry Smith thanked Dustin for his efforts on TAC over a truly unprecedented year, and welcomed incoming TAC members Corey Metzger, Dan Dettmers, Doug Reindl David Meredith and Tim McGinn.

Incoming Chair Larry Smith would present TAC with a vision 2022 with plans for ASHRAE's 21-22 society year. Smith would email and post to basecamp and asked all TAC members to review and give feedback (**Action Item 10**).

**ADJOURN**

MBO Submission to Planning

Updated 6/21/2021

Council: Technology Council  
 Committee: Technical Activities Committee (TAC)

Chair: Dustin Meredith  
 Vice-chair: Larry Smith

| MBO # | Description  | Metric   | Initiative # | Goal #     | Completion % /Date | Financial Assist Req'd? | MBO Comments  | Strategic Plan Tally |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|-------|--|--|--------------|------------|--------------------|-------------------------|---|----------------------|---|---|---|--------|---|--------|---|---|--------|---|---|---|---|---|--|--|--|
|       |  |  |              |            |                    |                         |   | Initiative #         |   |   |   | Goal 1 |   | Goal 2 |   |   | Goal 3 |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   | 1                    | 2 | 3 | 4 | a      | b | a      | b | c | a      | b | c |   |   |   |  |  |  |
|       |  | (how do we determine success?)                       |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
| 1     | Formalize TC continuation procedures (no assumptions)  | Procedures formalized                                | 3            | 3a, 3b     | Complete           | No                      | Draft FG evaluation tool drafted and available for use. Presented to TCs for Winter Meeting. Results available. Plan to have FGs do this at each Winter Meeting.  |                      |   | x |   |        |   |        |   |   |        |   |   | x | x |   |  |  |  |
| 2     | Establish solid basics/functional training (including virtual meeting basics)                | Number of training blocks developed                  | 3            | 2c, 3a, 3b | Complete           | No                      | TAC developed a workbook to perform both a subjective and objective evaluation of the functional groups under TAC. The aim is to evaluate the effectiveness and measure the health of the various FGs. This tool was introduced and rolled out for the first time at the ASHRAE Winter Meeting. TAC is evaluating data and now using as a tool. |                      |   | x |   |        |   |        |   |   |        |   |   | x | x | x |  |  |  |
| 3     | Automate TC reporting (e.g., activity form and Section Head data rollup)                     | Web Tool specification created<br>Web Tool developed | 3            | 3a, 3b     | Complete           | Yes. \$TBD              | Revised SH dashboard developed and in use. Staff looking at web tool to replace the sheet.  |                      |   | x |   |        |   |        |   |   |        |   |   |   | x | x |  |  |  |
| 4     | Formalize TC best practices  | Best Practices finalized and documented              | 3            | 3a, 3b     | Complete           | No                      | Best practices summary for section head training have been drafted and ready for distribution.  |                      |   | x |   |        |   |        |   |   |        |   |   |   | x | x |  |  |  |
| 5     | Improve time/resources at in-person meetings (breakfast and training sessions in particular) | Improved breakfast format finalized                  | 3            | 3a, 3b     | Complete           | No                      | Breakfast meetings have steadfastly improved. An "all hands" meeting is being held at the start of each meeting with announcements and functional training when appropriate. Section Heads subsequently hold brief Section only meetings to introduce themselves and handle any remaining questions before FG meetings begin.                   |                      |   | x |   |        |   |        |   |   |        |   |   |   | x | x |  |  |  |
| 6     | Establish effective and modern leadership training   | Number of training blocks developed                  | 3            | 2a, 3a, 3b | Complete           | No                      | Four training blocks developed for use by TCs and all of ASHRAE. Seeking PDH credits  |                      |   | x |   |        |   |        |   |   |        |   |   |   | x | x |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |
|       |  |  |              |            |                    |                         |   |                      |   |   |   |        |   |        |   |   |        |   |   |   |   |   |  |  |  |



## ASHRAE Leadership Presentation

Rick Hermans  
May 26, 2021  
TAC Virtual

1



## ASHRAE Policies

### Code of Ethics

*"We will act with honesty, fairness, courtesy, competence, inclusiveness and respect for others, which exemplify our core values of excellence, commitment, integrity, collaboration, volunteerism and diversity, and we shall avoid all real or perceived conflicts of interest."*

### Sexual Harassment

ASHRAE is committed to educating members to eliminate all instances of sexual harassment. The Society will deploy an online training program for volunteers to help educate and protect all members, and to sustain the professional environment members deserve and expect. This training will be required prior to serving on certain standing committees and/or in leadership positions.  
[ashrae.org/about/governance/ashrae-discrimination-and-harassment-policy](https://ashrae.org/about/governance/ashrae-discrimination-and-harassment-policy)

### Commercialism

**ASHRAE's Commercialism Policy** allows for Society activities that fulfill the mission of technological advancement with adherence to business plans that generate income to offset operational expenses such as AHR Exposition, ASHRAE periodicals, website, and Society conference events such as the Welcome Party, luncheons, registration kits, and receptions.  
[ashrae.org/commercialism](https://ashrae.org/commercialism)

[View ASHRAE Governing Documents at ashrae.org/about/governance](https://ashrae.org/about/governance)

2



## Memoranda of Understanding (MOUs)



Chartered Institution of Building Services Engineers (CIBSE)  
December 2020



U.S. Department of Homeland Security Science and Technology Directorate  
February 2021



National Air Filtration Association  
March 2021



Federation of European Heating, Ventilation and Air Conditioning Associations  
May 2020



Kuwait Foundation for the Advancement of Sciences (KFAS)  
November 2020



United Nations Environment Programme  
April 2021



International Ultraviolet Association  
May 2021



National Association of State Energy Officials (NASEO)  
November 2020

[Learn more at ashrae.org/mous](https://ashrae.org/mous)

3



## Financial Impact of COVID-19

- The pandemic economy and loss of the AHR Expo income has strained ASHRAE's budget significantly.
- Membership levels have been impacted but are down less than predicted at the start of SY 2020-21.
- ASHRAE secured two Payroll Protection Program loans** to help offset some of the losses from operational income. We have applied for loan forgiveness and hope to hear a resolution very soon.
- Staff expenses have been reduced, including the downsizing staff from 120 to 110 FTE.
- Volunteer and staff travel expenses have been reduced significantly, reflecting pandemic travel restrictions.

### Member Assistance

Due to the financial impact of the COVID-19 pandemic members have experienced, ASHRAE is **not increasing member dues** for the 2020-2021 Society Year.

**MCO 3.15 Hardship Cases and Natural Disaster Relief Action. 3.15.1 Hardship Cases**  
Members Council is responsible for determining what constitutes a hardship case and providing guidance to staff for determination of special consideration with respect to dues and other member benefits. Issues not covered by this guidance shall be ruled on by the chair of Members Council in consultation with staff. For more information, contact [membership@ashrae.org](mailto:membership@ashrae.org).

4

**Diversity, Equity, & Inclusion (DEI) in ASHRAE**  
*BOD Subcommittee created by the Board January 2021*



**Purpose of the BOD DEI Subcommittee:**

To advise and engage the Board of Directors on:

- All matters relating to diversity, equity and inclusion - with a view to improving organizational awareness and performance in these areas amongst both staff and the Society membership
- The establishment of annual budgets for DEI program and ongoing initiatives
- The prioritization of inclusivity issues which have relevance to ASHRAE, together with plans for addressing these issues

**Download the Report**  
[ashrae.org/DiversityEquityInclusion](https://ashrae.org/DiversityEquityInclusion)

The BOD DEI Subcommittee was recently approved as a new subcommittee to the Board.

**Members of the BOD DEI Subcommittee**  
 Andres Sepulveda (Chair); Adrienne Thomle (Vice Chair); Devin Abellon; Robin Bryant; Art Giesler; Eileen Jensen; Kishor Khankari; Tanisha Meyers-Liste; Dunstan Macauley; Richie Mittal; Farooq Mehtoboo (Consultant); Steven Sill



5

**Society Transformation Ad Hoc**



**Goals of Transformation**

- Free the BOD and ExCom for strategic activities
- Remove waste/operating cost
- De-silo ASHRAE and speed decision making
- Push decision-making lower in the organization
- Be market focused
- Expand and amplify our relevance



6

**Task Force for Building Decarbonization & Vision 2030**



**Goal of TFBD**

To develop technical resources and provide leadership and guidance in mitigating the negative carbon impact of buildings on the environment and the inhabitants of our planet.

|                               |                              |
|-------------------------------|------------------------------|
| <b>Don Colliver, co-chair</b> | <b>Tom Phoenix, co-chair</b> |
| Don Brandt                    | Bing Liu                     |
| Luke Leung                    | Tim McGinn                   |
| Dru Crawley                   | Bill McQuade                 |
| Francesca d'Ambrosio          | Dan Nall                     |
| Lance Davis                   | Kent Peterson                |
| Katherine Hammack             | Terry Townsend               |
| Ginger Scoggins               |                              |

More information coming soon

**Goal of Vision 2030**

To lead, serve, and provide all professionals in the buildings industry with the resources and knowledge to continually drive the innovative and strategic improvements needed during the revolution of the built environment.

|                             |                                |
|-----------------------------|--------------------------------|
| <b>Sheila Hayter, chair</b> | <b>Tom Phoenix, vice chair</b> |
| Bruce Branscum              | Tim McGinn                     |
| Robin Bryant                | Francis Mills                  |
| Jayson Bursill              | Dan Nall                       |
| Michael Cooper              | Lan Chi Nguyen Weekes          |
| Dru Crawley                 | Joe Norowitzky                 |
| Chris Gray                  | Drew Perrin                    |
| William MacGowan            | Chandra Sekhar                 |
| Manish Sharma               | Jiri Skopek                    |

7

**Nominations Needed!**



**Committee Nominations**

- Due mid-February. Council, RAC, TAC, Standards and Handbook nominations are due mid-September.
- Speak with your committee ExO if your current appointment ends in June and you wish to be nominated for another committee.

[ashrae.org/committee-nominations](https://ashrae.org/committee-nominations)

**Honors & Awards Nominations**

ASHRAE's awards fall into one of six categories:

- Personal Honors
- Personal Awards for General & Specific Society Activities
- Paper Awards
- Society Awards to Groups or Chapters
- Chapter and Regional Awards

[ashrae.org/honorsandawards](https://ashrae.org/honorsandawards)

**Learn about ASHRAE Technical Committees (TCs) at [ashrae.org/communities](https://ashrae.org/communities)**

8

## New Global Headquarters



ASHRAE has officially moved into a renovated 66,700 ft<sup>2</sup> building, originally built in 1978.

Over \$10.3M in monetary and in-kind support was received from generous stakeholders to support this renovation project.

Options for a formal grand opening are being considered for Nov. 2021.

180 Technology Parkway NW  
Peachtree Corners, GA 30092

PV system design is underway with installation to be completed soon to drive NZE performance.

See the video tour, photos, building technical features and our generous sponsors at [ashrae.org/newhq](http://ashrae.org/newhq)

9

## Epidemic Task Force (ETF)



Continues to provide COVID-19 related resources, making ASHRAE a trusted source of critical guidance during the pandemic.

[ashrae.org/covid19](http://ashrae.org/covid19) averages more than 40,000 views per month!

Clickable infographic for easy navigation, FAQ's and free resources



[ashrae.org/covid19](http://ashrae.org/covid19)

10

## Bylaws Update



Proposed Bylaws change, to be voted on Spring 2021:  
Change title of 'Member' grade to "Full Member"

ASHRAE Bylaws  
Section 2.1 Grades of Membership.  
These shall be designated as follows:  
(A) Honorary Member,  
(B) Presidential Members,  
(C) Fellow,  
(D) Life Member,  
(E) Life Associate Member,  
(F) Full Member,  
(G) Associate Member,  
(H) Affiliate Member, and  
(I) Student Member.

'Member' grade refers to individuals who have provided necessary education and professional background information to the Society in order to advance from Associate to Member grade.

This proposed Bylaws change would update the title of "Member" to "Full Member".

[ashrae.org/about/governance](http://ashrae.org/about/governance)

11

## Membership & Communities



Your Benefits [ashrae.org/membership](http://ashrae.org/membership)

**New Member Benefit Selection Society Year 2021-22**

Full Dues paying Members and Associate Members will be able to select from the following complimentary annual member benefits starting SY 2021-22:

- ✓ ASHRAE eLearning Course
- ✓ ASHRAE Standard (PDF)
- ✓ ASHRAE Handbook (PDF)

Members can add a Handbook Online subscription or printed copy of the Handbook for an additional fee.

50,000+ Society Members including 5200+ Student Members

15 Regions with 198 Chapters and 400+ Active Student Branches

**Connect-A-Colleague**  
Quickly invite peers to join ASHRAE and participate in committees using a pre-written email invitation at [ashrae.org/connect](http://ashrae.org/connect)

Your Community [ashrae.org/communities](http://ashrae.org/communities)

12

## ASHRAE Support

### Research Promotion (RP)

The Research Promotion campaign supports ASHRAE Research, Education, YEA programs, Scholarships, Endowed Funds, and the RP General Fund.

★ Thank You to all the **donors and volunteers** for your support during this challenging year.

**Society Year 2019-2020 total raised: \$2,117,677**

- \$1,635,596 in contributions for Research
- \$277,720 for ASHRAE Foundation
- \$170,596 for Scholarships
- \$33,765 for General Fund, YEA, and Education

### ASHRAE Foundation Grants & Scholarships

The ASHRAE Foundation is an endowed trust that provides funding for professional development and research programs, supplies qualified engineering students with much needed scholarship assistance, and provides grants to help support the Society's vital work.

SY 2021-22

**33**

Society Scholarships totaling \$152,000

**24**

Chapter-Awarded Scholarships totaling \$52,000

Donate, Volunteer, Apply, and Learn More at [ashrae.org/support](https://ashrae.org/support)

13

## Government Affairs

ASHRAE Government Affairs program works to establish ASHRAE as a leading source of trusted expertise for policy-makers in the development of legislation and regulations affecting the public and HVAC&R industry.

- Government Affairs Update** bi-weekly newsletter provides updates on government activities. Subscribe online or by emailing [GovAffairs@ashrae.org](mailto:GovAffairs@ashrae.org).
- Government Outreach Events** connecting ASHRAE volunteers with policy makers.
- Briefings & Testimony, Regulatory Meetings, Hearings, and Comments. **Letters** related to public policy priorities.

### Government Outreach Events

| Year                | State/Local Visits | Federal/Global Visits | Total |
|---------------------|--------------------|-----------------------|-------|
| SY16-17             | 9                  | 0                     | 9     |
| SY17-18             | 16                 | 0                     | 16    |
| SY18-19             | 29                 | 0                     | 29    |
| SY19-20             | 50                 | 0                     | 50    |
| SY20-21 (Estimated) | 78                 | 0                     | 78    |

Get Involved + Get Resources at [ashrae.org/government-affairs](https://ashrae.org/government-affairs)

14

## ASHRAE Conferences and Events

|                |   |  |
|----------------|---|--|
| SEP<br>2021    | AHR Mexico<br>Sept 21 – 23, 2021   Monterrey, N.L. Mexico   |  |
| NOV<br>2021    | 2021 ASHRAE Building Performance Analysis Conference<br>Nov 10 – 12, 2021   Denver, CO  |  |
| SPRING<br>2022 | IAQ 2020: Indoor Environmental Quality Performance Approaches<br>Spring 2022   Athens, Greece   |  |
| JUN<br>2022    | Ventilation 2022: 13 <sup>th</sup> International Industrial Ventilation Conference For Contaminant Control<br>Jun 22 – 24, 2022   Toronto, Canada |  |

[ashrae.org/conferences](https://ashrae.org/conferences)

15

## 2022 ASHRAE Winter Conference & AHR Expo

We're looking forward to reconvening in-person!

2022 ASHRAE Winter Conference  
January 29–February 2, 2022 | Las Vegas, Nevada

AHR Expo  
Jan. 31–Feb. 2, 2022 | Las Vegas Convention Center

Registration opens in late April at [ashrae.org/2022Winter](https://ashrae.org/2022Winter)

16

## Professional Development

|   |   |  |
|---|---|--|
| <p><b>eLearning</b><br/>Convenient, on-demand courses for individuals or groups.</p> <p><b>90+</b> online courses starting at \$42 for members.</p> <p><b>Group Rates Available</b></p> <p>Updated Course Catalog: <a href="http://elearningcatalog.ashrae.org">elearningcatalog.ashrae.org</a></p> | <p><b>ASHRAE Learning Institute (ALI)</b><br/>Instructor-led courses in a variety of formats.</p> <p><b>New Virtual HVAC Design Courses Live, Instructor-led</b></p> <ul style="list-style-type: none"> <li>• Level I – Essentials</li> <li>• Level II – Applications</li> </ul> <p><b>New 2021 Instructor-led Online Series</b><br/><a href="http://ashrae.org/onlinecourses">ashrae.org/onlinecourses</a></p> <p><b>Courses Available for ASHRAE Chapter, and In-Company Presentations.</b></p> | <p><b>Certification</b><br/>Validate and promote your expertise via online examination and digital badging.</p> <p>Building Design</p> <ul style="list-style-type: none"> <li>• Energy Modeling (BEMP)</li> <li>• Healthcare Facility Design (HFDP)</li> <li>• High-Performance Building Design (HBDP)</li> <li>• HVAC Design (CHD)</li> </ul> <p>Building Performance</p> <ul style="list-style-type: none"> <li>• Commissioning (BCxP)</li> <li>• Energy Assessment (BEAP)</li> </ul> <p>Building Operations</p> <ul style="list-style-type: none"> <li>• Operations &amp; Performance Maintenance (OPMP)</li> </ul> |
|---|---|--|

[ashrae.org/professional-development](http://ashrae.org/professional-development) ←

17

## Publications and Standards

**Recently published items available at [ashrae.org/bookstore](http://ashrae.org/bookstore)** ←

|   |   |   |
|---|---|---|
| <p><b>Standard 135-2020</b><br/>BACnet<br/>A Data Communication Protocol for Building Automation and Control Networks</p> | <p><b>Standard 170-2021</b><br/>Ventilation of Health Care Facilities</p>               | <p><b>Standard 90.1</b><br/>User's Manual<br/>(based on ANSI/ASHRAE/IES Standard 90.1-2019)</p> |
| <p><b>Guideline 41-2020</b><br/>Design, Installation and Commissioning of Variable Refrigerant Flow (VRF) Systems</p>     | <p><b>Standard 55-2020</b><br/>Thermal Environmental Conditions for Human Occupancy</p> |   |

18

## Resources

|   |   |
|---|---|
| <b>ASHRAE Technology Portal</b>                         | Provides a one-stop location for ASHRAE papers, articles, reports, Handbook PDFs, and seminar recordings.   |
| <b>Online Standards Database</b>                        | Allows access to public review drafts for standards, guidelines, and addenda to submit comments, to do online balloting, and to submit proposals to standards and guidelines. |
| <b>Zero Energy Advanced Energy Design Guides (AEDG)</b> | Are available for free download: offices and K-12 schools. <b>Multifamily AEDG available early 2021.</b>  |
| <b>Science and Technology for the Built Environment</b> | Provides free online access to archival research publication offering comprehensive reporting of original research.   |
| <b>ASHRAE Technical Apps</b>                            | Deliver mobile design, calculation, and analysis tools to the palm of your hand.  |
| <b>Free Technical Resources</b>                         | Offer downloads of a variety of well-known resources to everyone.   |
| <b>ASHRAE 365</b>                                       | Updates on all things ASHRAE, for free and year-round.  |

**Find these resources and many more at [ashrae.org](http://ashrae.org)** ←

19

Leadership:  
Fully Empowered for the  
Advance

Auto-tutorials  
4 Blocks; 20+ bites  
(Typically 30 to 40 mins)

TABLE OF CONTENTS

|           |         |       |              |   |  |  |  |  |  |
|-----------|---------|-------|--------------|---|--|--|--|--|--|
| Time mins | A - 5Es |       | Introduction |   |  |  |  |  |  |
| 34        |         | A.1.a | Envision     |   |  |  |  |  |  |
|           |         |       |              | leadership/management; vision definition;<br>examples of vision statements<br>developing a vision statement |  |  |  |  |  |
|           |         |       |              | define present (relational web), calling on creativity, chain cons  |  |  |  |  |  |
| 20        |         | A.1.b | Equip        |   |  |  |  |  |  |
|           |         |       |              | redefining vision statement; nature of equipping<br>relational skills of leadership                         |  |  |  |  |  |
| 14        |         | A.1.c | Empower      |   |  |  |  |  |  |
|           |         |       |              | equipping review<br>empowering definition and examples  |  |  |  |  |  |
| 12        |         | A.2.d | Edify        |   |  |  |  |  |  |
|           |         |       |              | definition<br>methods to edify  |  |  |  |  |  |
| 28        |         | A.2.e | Evaluate     |   |  |  |  |  |  |
|           |         |       |              | definition and purpose<br>leadership/management   |  |  |  |  |  |

|    |         |          |                       |   |  |  |  |  |                                   |
|----|---------|----------|-----------------------|---|--|--|--|--|-----------------------------------|
|    | B - 3Cs |          | Bridge to Block B     |   |  |  |  |  |                                   |
| 41 |         | B.1.a    | Change                |   |  |  |  |  | ATTACHMENT C - TAC 2021.A Minutes |
|    |         |          |                       | examples and definition                                       |  |  |  |  |                                   |
|    |         |          |                       | the delta and nature of change                                |  |  |  |  |                                   |
|    |         |          |                       | don't look back   |  |  |  |  |                                   |
| 51 |         | B.1.b.i  | Communication 101     |   |  |  |  |  |                                   |
|    |         |          |                       | different methods   |  |  |  |  |                                   |
|    |         |          |                       | control theory applied to communication, data sensors         |  |  |  |  |                                   |
|    |         |          |                       | right and left brain roles                                    |  |  |  |  |                                   |
|    |         |          |                       | subconscious and 6th. Sense                                   |  |  |  |  |                                   |
|    |         |          |                       | verbal and non-verbal   |  |  |  |  |                                   |
|    |         |          |                       | body language, kinesics, environmental, chronemics, proxemics |  |  |  |  |                                   |
| 40 |         | B.1.b.ii | Communication applied |   |  |  |  |  |                                   |
|    |         |          |                       | conflict resolution; diffusing attacks                        |  |  |  |  |                                   |
|    |         |          |                       | adverse responses   |  |  |  |  |                                   |
|    |         |          |                       | active listening  |  |  |  |  |                                   |
| 14 |         | B.1.c    | Character             |   |  |  |  |  |                                   |
|    |         |          |                       | relationships   |  |  |  |  |                                   |
|    |         |          |                       | characteristics of strong leadership                          |  |  |  |  |                                   |
|    |         |          |                       | core values   |  |  |  |  |                                   |

|    |       |          |                   |  |  |  |  |  |  |                                   |
|----|-------|----------|-------------------|--|--|--|--|--|--|-----------------------------------|
|    | C--FG |          | Bridge to Block C |  |  |  |  |  |  |                                   |
| 28 |       | C.1.a.i  | FG skit           |  |  |  |  |  |  | ATTACHMENT C - TAC 2021.A Minutes |
|    |       |          |                   | meeting bad and good conduct   |  |  |  |  |  |                                   |
| 32 |       | C.1.a.ii | FG Flow           |  |  |  |  |  |  |                                   |
|    |       |          |                   | Purpose, process and product of a meeting                                      |  |  |  |  |  |                                   |
|    |       |          |                   | Chair "behavioral boundaries"  |  |  |  |  |  |                                   |
|    |       |          |                   | Tasks: Prior to, during, closure and following                                 |  |  |  |  |  |                                   |
|    |       |          |                   | Maneuvering a meeting  |  |  |  |  |  |                                   |
|    |       |          |                   | Control and Conduct from start to closure of a meeting                         |  |  |  |  |  |                                   |
| 40 |       | C.1.b.   | Consensus         |  |  |  |  |  |  |                                   |
|    |       |          |                   | Defining consensus   |  |  |  |  |  |                                   |
|    |       |          |                   | Converging Consensus   |  |  |  |  |  |                                   |
|    |       |          |                   | Consensus vs.majority voting   |  |  |  |  |  |                                   |
|    |       |          |                   | General agreement and Spectral Voting  |  |  |  |  |  |                                   |
|    |       |          |                   | Leading to consensus (clarify, introduce, facilitate, close)                   |  |  |  |  |  |                                   |
|    |       |          |                   | Knowing (and handling) unique personalities                                    |  |  |  |  |  |                                   |
| 20 |       | C.1.c    | Decision Making   |  |  |  |  |  |  |                                   |
|    |       |          |                   | Motions/Resolutions; Consensus, Problem Solving, Strategic Planning            |  |  |  |  |  |                                   |
|    |       |          |                   | Three alternatives: "Value Chart", "Manon", "Eisenhower" Matrix"               |  |  |  |  |  |                                   |
|    |       |          |                   | Five Step (vg): 1. List alternatives; 2. Note "Pros" and "How to's"; 3. Rank a |  |  |  |  |  |                                   |

|               |                 |                              |  |  |  |  |  |                                   |  |  |
|---------------|-----------------|------------------------------|--|--|--|--|--|-----------------------------------|--|--|
| D- Creativity |                 | Bridge to Block D            |  |  |  |  |  |                                   |  |  |
| 28            | D.1.a.i         | Creativity Introduction      |  |  |  |  |  | ATTACHMENT C - TAC 2021.A Minutes |  |  |
|               |                 |                              | Definition, theories, examples   |  |  |  |  |                                   |  |  |
|               |                 |                              | blocks   |  |  |  |  |                                   |  |  |
| 41            | D.1.a.ii        | Creativity Thinking          |  |  |  |  |  |                                   |  |  |
|               |                 |                              | Right and left brain thinking (incubreaks)                                   |  |  |  |  |                                   |  |  |
|               |                 |                              | subconscious thinking (dreams)   |  |  |  |  |                                   |  |  |
|               |                 |                              | Developing Dream recall and Right Brain thinking                             |  |  |  |  |                                   |  |  |
| 59            | D.1.b           | Ideation                     |  |  |  |  |  |                                   |  |  |
|               |                 |                              | Role in Problem Solving  |  |  |  |  |                                   |  |  |
|               |                 |                              | Purpose, Setting, Players, Process (Guidelines), Process (Examples), Product |  |  |  |  |                                   |  |  |
| 13            | D.1.c.i         | Problem solving intro        |  |  |  |  |  |                                   |  |  |
|               |                 |                              | types of problems  |  |  |  |  |                                   |  |  |
|               |                 |                              | calls for creativity   |  |  |  |  |                                   |  |  |
|               |                 |                              | words of caution   |  |  |  |  |                                   |  |  |
|               |                 |                              | blocks   |  |  |  |  |                                   |  |  |
| 19            | D.1.c.ii        | Problem solving blocks       |  |  |  |  |  |                                   |  |  |
|               |                 |                              | types of blocks  |  |  |  |  |                                   |  |  |
| 30            | D.1.c.iii Pt I  | Problem Solving TLE unique   |  |  |  |  |  |                                   |  |  |
|               |                 |                              | Think Like an engineer   |  |  |  |  |                                   |  |  |
|               |                 |                              | Ask questions  |  |  |  |  |                                   |  |  |
| 22            | D.1.c.iii Pt II | Problem Solving TLE failures |  |  |  |  |  |                                   |  |  |
|               |                 |                              | Failing to Think   |  |  |  |  |                                   |  |  |
|               | D.1.d           | Strategic Planning           |  |  |  |  |  |                                   |  |  |

# Notes:

- Ratio of prep time to mp4 run time ~ 30
- One more mp4 to complete
- Encouraging all to go through the auto-tutorials, provide feed-back



**TAC**  
 TC Chair - Vice Chair Breakfast  
 Virtual Annual 2021 Meeting

1

**In all your interactions at these meetings, please remember...**

**Code of Ethics**

*“As members of ASHRAE or participants in ASHRAE activities, we pledge to act with honesty, fairness, courtesy, competence, integrity and respect for others in our conduct. We will avoid conflicts of interest and behavior that is discriminatory and/or harassing.”*




2

Welcome and Introductions

- TAC introductions (next slide)
- Note that in the presentation, the abbreviation of TC is also applied to TG, TRG, and MTG. In TAC, we often refer to these groups collectively as Functional Groups (FG’s).
- GoToWebinar –
  - Participants are in listen-only mode (on mute)
  - Use the chat feature to submit questions. Larry Smith (TAC Vice-Chair) will monitor.
- We will make this presentation available as a pdf and post on the TC Leadership Basecamp site
- All times in this presentation are US Eastern Standard Time Zone



3

Welcome and Introductions

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• <b>Chair:</b> Dustin Meredith</li> <li>• <b>Vice-Chair:</b> Larry Smith</li> <li>• <b>Special Activity Coordinator:</b> Victor Goldschmidt</li> <li>• <b>Training Coordinator:</b> Craig Messmer</li> <li>• <b>Operations Coordinator:</b> Vance Payne</li> <li>• <b>Section MTG Head:</b> Carl Huber</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Section 1 Head:</b> Jennifer Leach</li> <li>• <b>Section 2 Head:</b> Jon Cohen</li> <li>• <b>Section 3 Head:</b> Stuart Dols</li> <li>• <b>Section 4 Head:</b> Jamie Bennett</li> <li>• <b>Section 5 Head:</b> Kevin Marple</li> <li>• <b>Section 6 Head:</b> Dawen Lu</li> <li>• <b>Section 7 Head:</b> Satheesh Kulankara</li> <li>• <b>Section 8 Head:</b> Kevin Mercer</li> <li>• <b>Section 9 Head:</b> Brad Cochran</li> <li>• <b>Section 10 Head:</b> Charlie Henck</li> </ul> |
|---|---|

- **Staff Liaison:** Steve Hammerling
- **Roster Coordinator:** Tara Thomas
- **BOD Ex-Officio:** Rick Hermans
- **Coordinating Officer:** Bill McQuade



4

### What is different for this “breakfast” meeting

- Used as an “all hands” meeting and a training session
- Breakout meeting with your Section Head is being held separately
- Steve Hammerling has forwarded to the TC Chairs the normal handout. Some of that information will be covered by the liaisons later. Other topics can be covered during your Section Head meeting.



5

### Agenda

| Topic                                     | Presenter          | Time    |
|---|--------------------|---------|
| Information for TC Leadership             | TAC Chair          | 20 mins |
| FG Evaluation & More                      | Larry Smith        | 30 min  |
| Training                                  |                    |         |
| • Electronic Communications               | Craig Messmer      | 10 mins |
| • TC activity forms, roster updates, etc. | Larry Smith        | 30 mins |
| • Leadership Training                     | Victor Goldschmidt | 6 mins  |



6

### Committee Meeting Schedule is Available

- Visit [www.ashrae.org/phoenix](http://www.ashrae.org/phoenix) for committee meetings and technical program
- All are encouraged to register for the Technical Program
- TCs should have made and confirmed requests already. All TCs are asked to meet **at least once** (the “Main” meeting). Send questions to [lseymour@ashrae.org](mailto:lseymour@ashrae.org)




7

### Virtual Meeting

- TAC Part A - May 26, 10 AM to 2 PM
- TC Breakfast and Training – June 2, 2 PM to 4 PM
- TC/TRG/MTG Meetings from June 1 to June 21
  - If you are interested in attending any of the meetings taking place this summer, please visit the program ([www.ashrae.org/phoenix](http://www.ashrae.org/phoenix)) for log in details
- TAC Part B – June 21, 10 AM to 1 PM

All times are US Eastern Daylight Time Zone



8

**ASHRAE 2020 Virtual Conference Event Planning**

Following are events of importance to TC Leadership  
 TC Chairs / V-Chairs "Breakfast" + Training Wed, June 2 @ 2:00 – 4:00 PM (recorded)

For Subcommittee Chairs:

- Handbook Training Workshop June 4, 2-3 PM EDT
- TC Program SubC Training June 17, 12-1 PM EDT
- Research SubC Training t.b.d. (late summer or early Fall, 2021)

All times are US Eastern Time Zone



9

**ASHRAE Virtual Conference TC Chairs Deliverables**

By the end of the day, Friday June 18, you should have entered or submitted to your Section Head:

- TC Activity Form
- Roster Updates



10

**TC Reorg**

- The TC ReOrg committee issued a final report.
- An implementation subcommittee of TAC, led by Larry Smith, is working to incorporate recommendations
  - So far, TAC has approved numerous TC mergers – 3.2 & 3.3, 8.10 & 8.12, 9.4 & 9.8, 7.3 & 7.8, 10.1 & 10.3, 10.2, 10.5 & 10.8.
  - More being considered
  - Annual reaffirmation process now being enforced



11

**TC Reorg**

For those TC's that have decided to merge, you need to:

- Vote on the revised Title & Scope. Any combining TC's need to be voting on the same Title & Scope.
- Proposed leadership and voting roster need to be completed
- Please work closely with your Section Head

For those TC's still in the discussion phase, please keep your Section Head aware of your discussion status



12

### George B Hightower Technical Achievement Award

- **ASHRAE GEORGE B. HIGHTOWER TECHNICAL ACHIEVEMENT AWARD NOMINATION FORM**
- **Six** nominations received for the 2020-2021 Award!!!! Thank you!
- In recognition of exceptional service in the area of technical leadership and technical contribution **in the past four years.**
- Eligibility Points: While this award is given on the basis of service **in the past four years** as described in the nominator’s statement, nominees must have earned a minimum of 10 points for career service on the nominating TC/TG. Eligibility points are defined in the form.
- Next Due date – September 1



13

### George B Hightower Technical Achievement Award History

|  |  |  |
|--|--|--|
| <ul style="list-style-type: none"> <li>• 2003-2004 Richard L. Hall – TC 8.1</li> <li>• 2004-2005 <i>No nomination</i></li> <li>• 2005-2006 George Briley – TC 10.1</li> <li>• 2006-2007 <i>No nomination</i></li> <li>• 2007-2008 Howard J McKew – TC 9.1</li> <li>• 2008-2009 Paul Miclea – TC 5.9</li> <li>• 2009-2010 Dharam Punwani - TC 1.10</li> <li>• 2010-2011 Gary Phetteplace – TC 6.2 &amp; TC 6.8</li> <li>• 2011-2012 Don Beaty – TC 9.9</li> </ul> | <ul style="list-style-type: none"> <li>• 2012-2013 Lucas Hyman – TC 1.10</li> <li>• 2013-2014 Gursaran Mathur – TC 5.7</li> <li>• 2014-2015 John Carter – TC 4.3</li> <li>• 2015-2016 Steve Duda – TC 4.3 &amp; TC 9.1</li> <li>• 2016-2017 Paul Lindahl – TC 3.6 &amp; TC 8.6</li> <li>• 2017-2018 Art Halstrom – TC 1.6</li> <li>• 2018-2019 David Moss – TC 9.9</li> <li>• 2019-2020 Devin Abellon – TC 6.5</li> <li>• 2020-2021 Gemma Kerr – TC 2.3</li> </ul> |  |
|--|--|--|



14

### TC Manual of Procedures (MOP)

- Latest update available on the ASHRAE website
- Outlines membership Categories & Requirements
- Summarizes the responsibilities of the executive committee
- Defines TC/TRG/MTG purpose & scope
- Lists the ASHRAE acronyms
- Contains a guide to parliamentary motions in an appendix



15

### Reminders

- TC meetings are open, with the exception of Executive Session
- Accommodate time for your Section Head during your meeting
- You may have quite a few attendees at your virtual meeting. Develop a plan for providing them the floor. Remember, as Chair, you control the meeting.
- Feedback about how we might conduct “hybrid” meetings (some face-face and some remote) in the future



16

Equipping Yourself to Serve as TC Chair

- Take advantage of all training opportunities
- Recruit strong sub-committee chairs
- Read ASHRAE's TC MOP
- Study Robert's Rules of Order
- Establish and Maintain a Vision
- Recognize Extra Efforts



17

Interim Meetings – New Announcement Procedure

- TC's must meet twice per year and are encouraged to meet more frequently (quarterly or more) to keep work moving forward
- We will initiate a listing of any interim meetings on the Technical Committees webpage (<https://www.ashrae.org/technical-resources/technical-committees>), similar to the listing currently done for Standards
- TC interim meetings should be **posted** (by emailing the alias [TCmeetings@ashrae.net](mailto:TCmeetings@ashrae.net)) **two weeks before an online meeting** and **four weeks before a face-to-face meeting**. The person emailing should also include the meeting call-in info/ link for posting.



18

Interim Meetings – New Announcement Procedure (Cont)

- To keep our members apprised of the meetings, we will add a notice in the ASHRAE Journal Newsletter (bimonthly) to remind our members to check the listing and to provide a link to the list



19

TC Best Practices



20

[ASKTAC@ashrae.net](mailto:ASKTAC@ashrae.net)



## Introduction to ASHRAE Technical Activities Committee (TAC)

To serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration and their allied fields

Your HOTLINE to TAC  
[ASKTAC@ASHRAE.net](mailto:ASKTAC@ASHRAE.net)



21

### “Open Mic” for upcoming TAC meetings

**Technical Activities Committee (TAC) Open Mic Policy**

**Purpose:** Allow the ASHRAE membership to have a voice to express their concerns and offer improvements.

**When:** TAC traditionally meets during its pre-conference on the Saturday before the summer and winter conferences and the Wednesday at the conclusion of the conference. Likewise, during a virtual conference, the TAC meetings are conducted prior to the start and after the conclusion of the conference.

You need to check the conference schedule for the correct date/time of the meetings. TAC also conducts virtual meetings between the fiscal conferences. If you want “open mic” time just send your request using [ASKTAC@ASHRAE.net](mailto:ASKTAC@ASHRAE.net).

**How:** It would be appreciated if you would send a written request to [ASKTAC@ASHRAE.net](mailto:ASKTAC@ASHRAE.net) with the topic, however, this is not required.

It is the prerogative of the chair to advise how much time is available and when you can be heard. A 3-minute time limit is preferred. It would be preferable to be present at the beginning of the meeting so that you may be heard and not have to wait a prolonged period of time.

Please make sure you make your presence is recognized by the chair upon your arrival.

When in doubt email [ASKTAC@ASHRAE.net](mailto:ASKTAC@ASHRAE.net)



22

### Decarbonization Task Force

The ASHRAE Task Force for Building Decarbonization (TFBD) has been established to develop technical resources and provide leadership and guidance in mitigating the negative carbon impact of buildings on the environment and the inhabitants of our planet.

“In a similar vein to how ASHRAE took the lead in responding to the energy crisis of the 1970s era and defined the energy efficiency journey, ASHRAE has much to offer with respect to paths for responsible decarbonization strategies” said 2020-21 ASHRAE President Charles E. Guledge to PEI\_HBCD. “The challenges of decarbonization are complex but the task force is positioned to offer actionable technical guidance to ensure how buildings are built and operated.”

The specific responsibilities of the task force include:

- Providing recommendations and practices for industry stakeholders in decarbonization of the built environment.
- Defining the objectives of this holistic initiative, including, but not limited to:
  - Developing a framework for characterizing the issues related to decarbonization.
  - Identifying existing portfolios of ASHRAE technical resources or assets relating to decarbonization, and package them in a way useful to policy makers and stakeholders.
  - Identifying and quantifying knowledge gaps for policy makers and stakeholders who are tackling building decarbonization and develop resources to address these gaps.
- Formulating a value proposition statement as to why ASHRAE is embarking on this journey.
- Identifying the global audience related to this initiative.
- Establishing guiding principles that frame this journey.
- Oversee/steer the success associated with this initiative.

- Decarbonization PPIB approved – see [here](#)
- Decarbonization PD in development



23

### Template PPT agenda



24

2019–2024 2025 ASHRAE Strategic Plan

- Strategic Plan extended for 1 more year, through 2025
- Mission – To serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration and their allied fields.
- Vision – A healthy and sustainable built environment for all.
- Values – Excellence, Commitment, Integrity, Collaboration, Volunteerism, Diversity



25

2019–2024 2025 ASHRAE Strategic Plan

Goals:

1. Position ASHRAE as an Essential Knowledge Resource for a Sustainable, High-Performance Built Environment
2. Maximize Member Value and Engagement
3. Optimize ASHRAE's Organizational Structure to Maximize Performance



26

2019–2024 2025 ASHRAE Strategic Plan

Strategic Plan Areas and Initiatives:

Initiative Area: Built Environment of the Future

1. Resilient Buildings and Communities
  - TC 2.10 working to develop a work plan. Will seek help from various TCs.
2. Indoor Environmental Quality
  - EHC working to develop a work plan. Will seek help from various TCs.
3. Organizational Streamlining
  - TAC working to develop a work plan. Will work closely with TCs.
4. Improve Chapter Engagement, Capacity and Support



27

Program deadlines

- Program (Seminar, Forum, Workshop, Debate and Panel) and Extended Abstract Paper proposals for Las Vegas are due by Monday, July 12, 2021
- [www.ashrae.org/conferences/2022-winter-conference-las-vegas](http://www.ashrae.org/conferences/2022-winter-conference-las-vegas)



28

## FG motions

**MOTION (Template)**  
TAC 2021.A  
DATE: 04/20/2021  
Chapter: Your Committee Number and Name Here

**MOTION TYPE:** TAC, Report  
*(It is a motion approved by TAC or such vote at TAC Meeting and will be completed at the TAC level. Indicate only one vote. [Motion Approval Process](#), [Motion Approval](#))*

**MOTION:**  
Write your motion here.  

- This should be short and to the point. It should state what action you are requesting, by whom, and by when.
- This is the ONLY part of your motion that is critical. Any change to this motion must be introduced as a revision as if it had to be introduced on motion (include the background and fiscal impact statement).
- All amendments must be approved and listed below.
- Dates of implementation are important.
- Think only your Section Head. If necessary, explain other members that they have to vote.
- Try to be as specific as possible and use words like "recommends", "requests", "calls for", "is", "by".
- All dates include the month and fiscal year period.
- The rest of the information (background and fiscal impact) are the justification only.
- If you don't have time or need something, ask your Section Head to help you with this.

**BACKGROUND:**  
Write background here.  

- This area is where you provide your justification surrounding change.
- You can provide historical context, statistics, etc.
- You can also use this area to explain your logic or experience that led your committee to believe this will make the overall Society better because of your motion.
- It is best to speak to the general goal of Society, not respond to opposing Society change to fit the goals of one or two committees only.

**FISCAL IMPACT**  
Fiscal impact should not exceed \$1,000 annually.  
 Fiscal impact is required to be negligible.  

- Explain what the total cost impact of the motion is to society. Leadership understands this is the **total** cost.
- "Total impact is zero" is not well received by some members. Better to say "minimal" or "negligible".
- If you don't know, it is ok to admit a "Total impact is unknown." That is better to admit to other Regions whether the impact is minimal, large, etc. Leadership should have an idea of the finance department that have potential fiscal impacts when they are considered, or when the Board is informed the potential impacts to be negligible.
- It is best to report on one source of justification and the total impact. If one motion impacts all members of society, it is best to mitigate the impact of one person to 10,000 members. If a stand-alone book to get an average cost that Society uses to estimate expenses.
- Your Section Head can help you with this.



## Thank You

Thank you for all you do for ASHRAE! Your contributions to society are important and appreciated.

Questions?



## Announcements and Reminders for TC/TG/TRG & MTG Chairs Virtual Annual Meeting 2021

### A. NEW!

#### 1. Discuss and confirm that TGs, TRGs, and MTGs in section will continue in 21-22 Society Year

This will be an annual activity and agenda item for Winter Meeting but wish to highlight here as well. TCs are encouraged to work with Section Head on new FG Evaluation worksheet.

From TC MOP:

##### 1.5. Review

- 1.5.1.** Once a year, preferably at, or prior to, each Annual meeting, the Committee Chair and Committee Membership shall evaluate their progress in accomplishing the purpose for which they were constituted and recommend one of the following actions to their Section Head:
- a) Continue as a TC, TG, MTG, or TRG
  - b) Convert from a TG to a TC
  - c) Convert from a TRG to a TG or TC
  - d) Merge with a TC/TG/TRG and submit a revised scope for the merged committee
  - e) Dissolve the TC, TG, MTG, or TRG.
    - i) If a TC/TG/TRG/MTG votes to disband, it must establish whether any current responsibilities should be continued and, if so, recommend existing TC/TRG/MTG(s) to assume responsibility and obtain those committee's written concurrence

#### 2. Open Mic

##### Technical Activities Committee (TAC) Open Mike Policy

**Purpose:** Allow the ASHRAE membership to have a voice to express their concerns and offer improvements.

**When:** TAC traditionally meets during in-person conferences the Saturday before the summer and winter conferences and the Wednesday at the conclusion of the conference. Likewise, during a virtual conference, the TAC meetings are conducted prior to the start and after the conclusion of the conference.

You need to check the conference schedule for the correct date/time of the meetings.

TAC also conducts virtual meetings between the formal conferences. If you want "open mike" time just send your request using [ASKTAC@ASHRAE.net](mailto:ASKTAC@ASHRAE.net).

**How:** It would be appreciated if you would send a written request to [ASKTAC@ASHRAE.net](mailto:ASKTAC@ASHRAE.net) with the topic, however, this is not required.

It is the prerogative of the chair to advise how much time is available and when you can be heard. A 3-minute time limit is preferred. It would be preferable to be present at the beginning of the meeting so that you may be heard and not have to wait a prolong period of time.

Please make sure you make your presence is recognized by the chair upon your arrival.

When in doubt email: [ASKTAC.ASHRAE.net](mailto:ASKTAC.ASHRAE.net)

#### 3. FG Motions

New form to submit motion to TAC for consideration. Intent to give FGs a method to require TAC response, report ideas, etc. Will be added to [www.ashrae.org/TCs](http://www.ashrae.org/TCs) and Basecamp:

## Announcements &amp; Reminders for TC/TG/TRG &amp; MTG Chairs Virtual Annual Meeting 2021

MOTION TYPE: TAC / Society

If a motion impacts only TAC, it will stay a TAC Motion and will be completed at the TAC level. Indicate only one here. **If you are using this as a template, erase all red text.**

MOTION:

Write your motion here.

- This should be short and to the point. It should state exact action you are requesting, by whom, and by when.
- This is the ONLY part of your motion that is voted on. Any change to this portion must be submitted as a motion in of itself to amend this motion (unlike the background and fiscal impact portions)
- Do not include repeat background and fiscal impact here.
- Dates of implementation are important.
- Work with your Section Head, if necessary, where dollar amounts that vary year to year
- Try to be as specific as possible and not use words like "recommend", "investigate", "look in to", or "try".
- Do not include background or fiscal impact portions.
- The rest of the information (background and fiscal impact) are for information only.
- If you don't know how to work something, ask, your Section Head can help you with this.

BACKGROUND:

Write background here.

- This area is where you provide your anecdotes necessitating change.
- You can provide historical context, precedents set, etc.
- You can also use this area to explain your logic or experiences that led your committee to believe this will make the overall Society better because of your motion.
- It is best to appeal to the greater good of Society (as opposed to requesting Society change to fit the goals of one or two committees only)

FISCAL IMPACT

Fiscal impact should not exceed \$ \_\_\_\_ annually.

-or-

Fiscal impact is expected to be negligible.

- Estimate what the total cost impact of the motion is to society. Leadership understands this is the framers best guess.
- "Fiscal impact is zero" is not well received by some members. Better to say "minimal" or "negligible".
- If you don't know, it is ok to admit it, like "Fiscal impact is unknown." But it is better to indicate to some degree whether the impact is minimal, large, etc. Leadership should have an idea if the framer appreciated the large potential fiscal impacts when they are significant, or where the framer's believed the potential impacts to be negligible.
- It is best practice to use some sort of justification and the broad impacts. If your motion impacts all members of society, it is best to extrapolate the impact of one person to 50,000 members. If it is travel-related work to get an average cost that Society uses to estimate expenses.
- Your Section Heads can help you with this.

#### 4. [asktac@ashrae.net](mailto:asktac@ashrae.net)

Resource for all TAC/TC related questions, comments, etc. Any questions, please email.

#### 5. TC Meeting schedule and protocols

TC committee meeting schedules posted at [www.ashrae.org/conferences/2021-annual-conference](http://www.ashrae.org/conferences/2021-annual-conference). Access to virtual committee meetings will available to all. The meeting access information is included in the program.

#### 6. 21-22 Roster Rollover

Remember, the current 2020-2021 roster for your TC, TG or MTG is in effect until after the June meeting later this year.

TC Chairs should be done submitting 2021-22 SY roster. There was a unique link to an online workbook for your particular TC to allow you to update membership and roster assignments. For future reference a recorded training presentation on how to use this workbook is posted on our website at [www.ashrae.org/technical-resources/technical-committees/tc-training-and-presentations](http://www.ashrae.org/technical-resources/technical-committees/tc-training-and-presentations). Emergency roster changes should be submitted to your section head or [tthomas@ashrae.org](mailto:tthomas@ashrae.org).

#### 7. Interim TC Meeting Procedures

TAC is encouraging TC's to meet in between ASHRAE Meeting. TAC will implement the following:

- Maintain a listing of the interim meetings on the Technical Committees webpage ([www.ashrae.org/technical-resources/technical-committees](http://www.ashrae.org/technical-resources/technical-committees)), similar to the listing done for Standards.
- TC interim meetings should be posted (by emailing the alias [TCmeetings@ashrae.net](mailto:TCmeetings@ashrae.net)) two weeks before an online meeting and four weeks before a face-to-face meeting. The person emailing should also include the meeting call-in info/ link for posting.

**Announcements & Reminders for TC/TG/TRG & MTG Chairs Virtual Annual Meeting 2021**

- To keep our members apprised of the meetings, we will add a notice in the ASHRAE Journal Newsletter (bimonthly) to remind our members to check the listing and to provide a link to the list.

**8. New Section Head/TC leadership Basecamp**

A new Basecamp (<https://3.basecamp.com/3106353/projects/15520814>) is set up to communicate and transfer documents between TAC Section Heads and TC leadership (Chairs, Vice Chairs, Secretary) at TC members can participate at <https://3.basecamp.com/3106353/join/8MHSs5gveaLg>. Send staff ([shammerling@ashrae.org](mailto:shammerling@ashrae.org)) an email if you need access.

**9. TC Re-Org update**

TAC has a subcommittee to implement recommendations of TC Re-Org Ad Hoc final report.

For those TC's that have decided to merge, you need to:

- Vote on the revised Title & Scope. Any combining TC's need to be voting on the same TPS.
- Proposed leadership and voting roster need to be completed.
- Please work closely with your Section Head.
- So far, TAC has approved 5 TC mergers – 3.2 & 3.3, 8.10 & 8.12, 9.4 & 9.8, 7.3 & 7.8, and 10.1 & 10.3. More are in the works.
- For those TC's still in the discussion phase, please keep your Section Head aware of your discussion status.

**10. How to Import Your TC Roster Information into MS-Outlook**

Detailed instructions on how to import your TC roster information into MS-Outlook has been created and an e-mail announcement will be issued to all TC chairs, vice chairs, and secretaries once these instructions and the restructured TC MOP are posted to the TC page of the website ([www.ashrae.org/TCs](http://www.ashrae.org/TCs))

**B. VIRTUAL ANNUAL MEETING****1. Training Options****i. TC/TG/TRG/MTG Chair's Training Topic**

A set of training blocks related to leadership training is in development. Four training blocks are nearly complete. Access will be made available to FG leadership shortly. TAC is exploring making PDH credits available. The training is part of TC Chair's Breakfast virtual meeting.

**ii. TC Program Subcommittee Chair Training**

Thursday, June 17<sup>th</sup>, 12:00 PM – 1:00 PM EDT. See program for access

**Announcements & Reminders for TC/TG/TRG & MTG Chairs Virtual Annual Meeting 2021**

- iii. **Handbook Training for TCs and Liaisons**  
Friday, June 4<sup>th</sup>, 2:00 PM – 3:00 PM EDT. See program for access
- iv. **RAC's Research Subcommittee Chair's Breakfast**  
Training to be scheduled for later in summer or fall 2021

**C. UPCOMING DEADLINES**

1. **TC Activity Forms for the 2021 Virtual Annual Meeting are due to Your Section Head before Friday June 18, 2021**  
*TC/TG/TRG Activity Feedback Form (Excel)* can be downloaded from the TAC Section and TC Leadership Basecamp - [www.ashrae.org/standards-research--technology/technical-committees/tc-forms-and-documents](http://www.ashrae.org/standards-research--technology/technical-committees/tc-forms-and-documents). Version 3 was also emailed June 2, 2021. Section heads can also provide an electronic copy of the form if requested.
2. **ASHRAE is planning for face-to-face meeting in Las Vegas, NV, January 29 – February 2, 2022. Seminar and Forum proposals are due by Monday, July 12, 2021.** Please visit the following site to submit your proposal: For more information, go to: [www.ashrae.org/lasvegas](http://www.ashrae.org/lasvegas). Here's the deadlines:  
  
**Monday, April 12, 2021:** Conference Paper Abstracts, Technical Papers Due  
**Friday, April 30, 2021:** Conference Paper Abstract Accept/Reject Notifications  
**Friday, June 18, 2021:** Website Opens for Program Proposals  
**Monday, July 12, 2021:** Conference Papers Due  
**Friday, August 6, 2021:** Revised Conference Papers/Final Technical Papers Due  
**Monday, August 23, 2021:** Conference Paper Accept/Revise/Reject Notifications
3. **2021-2022 Hightower Award Nominations by Wednesday, September 1st**  
There were 6 nominations for this year's award. Thanks to all TCs that nominated a winner! All that did not win are encouraged to resubmit.

TAC wishes to encourage TCs to make nominations for the 2020-2021 *George B. Hightower Technical Achievement Award*. Nominations are due to Section Heads by September 1, 2021 or sooner. The award recognizes outstanding technical leadership and contributions on a TC/TG/TRG during the past four years, excluding research and standards activities. Please go to the Technical Committee page of the ASHRAE website at the following link under the "Procedures, Forms..." heading: [www.ashrae.org/tcs](http://www.ashrae.org/tcs).

**D. REMINDERS**

1. **21-22 Roster Rollover**  
Remember, the current 2020-2021 roster for your TC, TG or MTG is in effect until after they meet for the ASHRAE Annual Conference. Rosters will roll over to 2021-2022 at that point.
2. **Useful TC/TG/TRG/MTG Chair Information and forms on ASHRAE website**  
Information for TC/TG/TRG and MTG chairs can be found on the Technical Committee page of the ASHRAE website at the following link: [www.ashrae.org/tcs](http://www.ashrae.org/tcs)

**Announcements & Reminders for TC/TG/TRG & MTG Chairs Virtual Annual Meeting 2021****3. Request for each TC to briefly review ASHRAE Code of Ethics at start of meeting**

See the following link for the latest version of the ASHRAE Code of Ethics:

[www.ashrae.org/about-ashrae](http://www.ashrae.org/about-ashrae).

**4. Make a Special Effort to welcome new Members, and Visitors to TC meeting**

Potential new members for your committee have been encouraged to drop-by your meeting. As a result, please make a special effort to recognize and warmly welcome all visitors to your meeting – A TC can never have too many willing and able volunteers.

**5. Option for TC Subcommittee Meetings via Conference Calls and Web Meetings**

TCs and TC subcommittees are encouraged to use Interim Meeting procedures described above for subcommittee meetings as well.

**6. Is Your Committee Website up to Date?**

If not, please ask your webmaster to at least post the latest minutes and the Virtual Annual meeting times and agenda. If your website has been neglected, add an action item for this meeting to appoint a responsible member of the TC/TG/TRG who will bring it back to life. The new TC website template has greatly simplified the duties of the TC webmaster and this form of communication is critical to the efficient operation of your committee, and for attracting new members. Please note a listserv is available to TCs to communicate with rostered members and all interested in keeping track of TC activities.

The conversion to a new TC website platform highlighted a couple areas where a refresher of the ASHRAE rules on website maintenance is warranted. First be aware that ASHRAE Products (i.e., handbook chapters, journal articles, final reports from research projects, etc.) cannot be published on your TC's website. It is very appropriate to post the title and scope of the product and then link the reader to the ASHRAE bookstore or other location on the ASHRAE site where the product may be purchased. Any possible exceptions to this rule must be sent through Mark Owen for review and approval ([mowen@ashrae.org](mailto:mowen@ashrae.org)). The second issue involves timely posting of the draft minutes. Draft minutes (and final, approved minutes from the prior meeting) should be posted to your website (or otherwise distributed to the members) within 60 days after the meeting. Please ensure that your secretary and webmaster are aware of this deadline. To assist your secretary in understanding the procedures for taking and reporting minutes, a video has been developed and posted on the Technical Committees' Training page (<http://www.ashrae.org/tcs>). On the same page, a video has also been posted for use by webmasters to learn about the procedures and schedule to maintain the new websites.

**7. TC Master Calendar – Now Available through Google** - The Technical Committee Master Calendar is now available through Google. In order to access this calendar you need to have a Google account.

Once you log into your Google account, follow the instructions below:

To add a friend's calendar, just follow these steps:

**Announcements & Reminders for TC/TG/TRG & MTG Chairs Virtual Annual Meeting 2021**

- At the bottom of the calendar list on the left, click Add and select Add a friend's calendar.
- Enter the appropriate email address (techservices1791@gmail.com) in the field provided, then click Add.

This calendar is public and will appear under 'Other Calendars' in the left column.

To set up Google Calendar Sync to your Outlook:

- Make sure you're using a supported operating system and Outlook version.
- Download Google Calendar Sync (version 0.9.3.6) at
- <https://google-calendar-sync.en.softonic.com/>
- Once a dialog box appears, click Save File. The downloaded file should open automatically. If it doesn't, manually open it from your browser's download window.
- Click OK to confirm that you're aware this is an executable file.
- Read through the Google Calendar Sync Terms of Service, and click I Agree.
- Follow through the Installation Options and click Install to finish the set-up process.

Once Google Calendar Sync is installed on your computer, the Google Calendar Sync Settings window will appear:

In the Settings window, enter your email address and password and select the Sync Option you prefer. Read about each Sync Option.

You'll also be able to set the time interval for syncing to occur. Please keep in mind that 10 minutes is the minimum time interval allowed.

After the initial set-up, you can access the Google Calendar Sync Settings window again by double-clicking the calendar icon in your Windows System Tray.

**11. TC E-mail Position Aliases available**

SY 20-21 TC Position e-mail alias addresses for the mandatory positions of the Technical Committee management team (Secretary, Standards Sub. Chair, Program Sub. Chair, Handbook Sub. Chair, and Webmaster) will stay in effect until July 1<sup>st</sup>. The 20-21 E-mail Alias list with these position aliases is posted on the ASHRAE website [www.ashrae.org/TCs](http://www.ashrae.org/TCs) under the heading *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs*.

**12. Restructured TC MOP (Manual of Procedures)**

TAC has restructured the TC MOP so that it is easier to navigate and find information. The new TC MOP can be found on the ASHRAE website [www.ashrae.org/TCs](http://www.ashrae.org/TCs) under the heading *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs*.

**13. Distribution of TC minutes changed in TC MOP**

The TC MOP and *TC/TG/MTG/TRG Minutes Cover Sheet* form have both been updated and you are no longer required to send the TAC chair a copy of your minutes after each meeting. The new minutes cover sheet can be found on the ASHRAE website

**Announcements & Reminders for TC/TG/TRG & MTG Chairs Virtual Annual Meeting 2021**

[www.ashrae.org/TCs](http://www.ashrae.org/TCs) under the headings *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs – Routine Forms for TC/TG/MTGs/TRGs.*

**14. Updated TAC Presentation Template Available for TC members to use with local Chapter**

TAC recently updated the standard presentation and presentation notes that TC members can use, without a lot of effort, to explain what TCs do for the Society and how that work benefits members in your local ASHRAE Chapter.

The new presentation and presentation notes files are posted now at the following link [www.ashrae.org/tcs](http://www.ashrae.org/tcs) under the heading *General TC Information* at the top of the page in case you prefer to direct others to these files posted online. The presentation material is now also available in both English and Spanish.

**15. Basecamp and Virtual Meeting Information from Communications Committee**

More and more TCs and standing committees are making use of ASHRAE's subscription to Basecamp3 to better organize, store, and distribute on-line committee files that are needed for their meetings through a dedicated committee Basecamp site. If you would like to learn more about Basecamp and how to request a site for your particular committee, please go to the Communications Committee (CC) web page:

(<https://www.ashrae.org/communities/committees/standing-committees/electronic-communications-committee> ) and scroll down to the section titled *Basecamp Guidance*

**E. RECENT ANNOUNCEMENT****1. CEC's Standing Request for Future Society Meeting Program Track Suggestions**

The Conferences and Expositions Committee (CEC) oversees ASHRAE's annual and winter conferences and other specialty conferences and expositions globally. The CEC continually works to improve the conference experience for all attendees. To help keep a "pulse" on the technical issues facing professionals in the HVAC&R marketplace, and to create meetings that reach all of ASHRAE's constituencies, the CEC seeks ideas for tracks for the 2022 Annual meeting and annual and winter conferences beyond as well as topics for specialty conferences from TC members.

Please submit your suggestions to ASHRAE Staff member Tony Giometti ([Giometti@ashrae.org](mailto:Giometti@ashrae.org)). You can also add your track suggestion in the "Comment" section of the TC Activity form for the Orlando meeting.

**2. CEC Always Seeks TC Volunteers willing to Support Content Development and Quality Control for Society Technical Program at Society Meetings**

Provide to your Section Head after each Society meeting a list of qualified volunteers from your TC that are potential Technical Session chairs and reviewers of session papers that are related to TC's scope for use by the Conferences & Expositions Committee (CEC) in developing technical content for future technical programs.

**Announcements & Reminders for TC/TG/TRG & MTG Chairs Virtual Annual Meeting 2021****3. The Professional Development Committee (PDC) is seeking ideas for new ASHRAE Learning Institute (ALI) courses.**

The Professional Development Committee (PDC) is actively seeking ideas for new ASHRAE Learning Institute (ALI) courses. We need practical courses of broad interest to be presented as face-to-face seminars or short courses, instructor-led online courses and self-paced courses. Examples include courses with a focus on new technologies that need to be shared, fundamentals for engineers new to the discipline, standard applications that need explanation, and courses based on new design guides. Does your TC have a potential course idea?

Contact Karen Murray (ASHRAE staff) [kmurray@ashre.org](mailto:kmurray@ashre.org) or [PDCchair@ashrae.net](mailto:PDCchair@ashrae.net) with your course ideas.

**4. ASHRAE Certification Committee seeking ideas from TCs for possible professional certification programs**

Certification Committee seeking ideas from TCs for possible professional certification programs related to 1) support adaptability, resilience and recovery of buildings and communities, 2) promote understanding of indoor environmental quality (IEQ) among practitioners). Representatives from the Certification Committee will meet with TCs in Orlando that expressed an interest or had ideas.

**F. CURRENT & UPCOMING ASHRAE CONFERENCE PROGRAMS****1. Phoenix Annual Conference – Jun. 26 – Jun. 30, 2021**

Conference Website: <https://www.ashrae.org/phoenix>

Conference Program Chair: Christine Reinders

Program Focus at Phoenix Annual Conference

- i. Track 1: **Fundamentals and Applications**
- ii. Track 2: HVAC&R Systems and Equipment
- iii. Track 3: Research Summit
- iv. Track 4: Professional Development
- v. Track 5: Design, Control, and Operation of Critical Environments
- vi. Track 6: HVAC&R for Indoor Plants and Animals
- vii. Track 7: Future Proofing – Renewable, Regenerative and Resilient
- viii. Track 8: Hot, Hot, Hot
- ix. Track 9 (mini-track) to be announced

**2. Las Vegas Winter – Jan. 29 – Feb. 2, 2022**

**Announcements & Reminders for TC/TG/TRG & MTG Chairs Virtual Annual Meeting 2021**

Conference Website: [www.ashrae.org/conferences/2022-winter-conference-las-vegas](http://www.ashrae.org/conferences/2022-winter-conference-las-vegas)

Program Focus at Las Vegas Winter Conference

- i. Track 1: HVAC&R Systems and Equipment
- ii. Track 2: Fundamentals and Applications
- iii. Track 3: Refrigerants and Refrigeration
- iv. Track 4: Buildings at 360°
- v. Track 5: Energy System Integration
- vi. Track 6: Environmental Health and IEQ in the International Arena
- vii. Track 7: HVAC for Industrial and Commercial Purposes - Challenges and Opportunities
- viii. Track 8: Refrigerants, Safety, Performances
- ix. Track 9 (mini-track) to be announced

**G. OTHER UPCOMING WORKSHOPS, CONFERENCES AND EVENTS****1. 2021**

1. IAQ 2020: Indoor Environmental Quality Performance Approaches: Transitioning from IAQ to IEQ – September 13-15, 2021 – Athens, Greece - [www.ashrae.org/iaq2020](http://www.ashrae.org/iaq2020)
2. 2021 ASHRAE Building Performance Analysis Conference – November 10-12, 2021 - [www.ashrae.org/conferences/topical-conferences/2021-ashrae-building-performance-analysis-conference](http://www.ashrae.org/conferences/topical-conferences/2021-ashrae-building-performance-analysis-conference)

**2. 2021**

1. ASHRAE Winter Meeting, January 31 – Feb. 2, 2022 Las Vegas, NV - [www.ashrae.org/conferences/2022-winter-conference-las-vegas](http://www.ashrae.org/conferences/2022-winter-conference-las-vegas)
2. Ventilation 2022: 13th International Industrial Ventilation Conference for Contaminant Control, June 22-24, 2022 Toronto, Canada - <https://www.ashrae.org/conferences/topical-conferences/ventilation-2022>

**TG/TRG PROPOSAL FORM**

Return Form to:  
 Manager of Research & Technical Services  
 ASHRAE  
 1791 Tullie Circle, NE  
 Atlanta, Georgia 30329-2305  
 ☎ 404-636-8400 • Fax 404-321-5478  
 E-mail : techserv@ashrae.org

**Date:**

June 16, 2021

Turn in no later than 3 weeks prior to the meeting for consideration by TAC

**TG/TRG Name:**Reactive Air and Surface Treatment**TG/TRG Section:**

2.0 Environmental Quality

**TG/TRG Scope:**TG Reactive Air and Surface Treatment

Why does ASHRAE need the TG on Reactive Air and Surface Treatment?

**Scope of TG Reactive Air and Surface Treatment**

TG is concerned with advancing the knowledge, effectiveness, and safety of Reactive Air and Surface Treatment and associated technologies for air cleaning and surface disinfection. This TG will be responsible for Photocatalytic Oxidation, Ionization, Hydrogen Peroxide, and other associated or new technologies not specifically covered by another TC. In particular, devices using only ultraviolet radiation to destroy or inactivate biological air and surface contaminants in HVAC systems and indoor spaces are not included.

**Background Information**

This will allow ASHRAE the ability to provide better answers to the questions being asked by building owners, operators, school administrators and anyone else trying to make the building environment safer for occupants.

The TG will focus on completing the below items:

- MOT standard or standards for duct-mounted devices and non-bioaerosol devices (1<sup>st</sup> priority)
- Research Reports
- Position Documents
- ASHRAE Handbook chapters
- ASHRAE Journal Publications
- On-going Research Projects
- Special Publications
- Presentations and other reference documents

Building owners, facility managers for hospitals, school districts, universities, colleges and business owners look to ASHRAE for guidance on how to help improve the safety of their facilities from pathogens including Covid-19. They are asking about the effectiveness of Reactive Air and Surface Treatment technologies including Photocatalytic oxidation (PCO), Needle point bipolar ionization, upper Ultraviolet C, and other products. The answer they are getting from ASHRAE on many of the Reactive Air and Surface Treatment technologies is “we need further research.” Due to the pandemic, some of the Reactive Air and Surface Treatment companies are moving forward with their own research using various methods of testing. ASHRAE needs to move forward quickly in developing test standards that cover air cleaners and devices intended to clean the air that are not covered by current standards. Once manufacturers begin to use these MOTs, the data will be available to our community which will allow ASHRAE to better respond to the questions from building owners, facility managers and business owners.

ASHRAE’s response to date regarding some of the Reactive Air and Surface Treatment devices is “However, few studies document the direct effects of these technologies on health and their long-term performance, as well as their potential limitations and shortcomings.” This is from the ASHRAE Position Document on Filtration and Air Cleaning that expired on January 29, 2018. The updated position paper dated to expire January 23, 2021 fails to mention many of the reactive devices under consideration. The ASHRAE community needs more information on these devices; a focused TG is needed to make this happen. The main goals of the TG on Reactive Air and Surface Treatment will move ASHRAE into a leadership position to be able to advise building owners and facility operators and anyone else trying to make their facility safer from pathogens including Covid-19.

### **Reactive Air and Surface Treatment**

There are two types of air purifying technologies, active and passive. These terms are not ubiquitous in the community, but they serve to highlight the issues discussed here.

Active air purifiers include devices that use electrical power to increase the removal of contaminants from the air. Examples of Reactive Air and Surface Treatment include (but are not limited to) ion generators, and photocatalytic oxidation devices.

Passive air purification devices include media air filters to remove particles and sorbent beds to remove gases. When mounted in ducts, these devices do not need separate power.

### **Reactive Air and Surface Treatment devices**

**Photocatalytic oxidation (PCO)**, employs ultraviolet light photons and a catalyst. As photons from the UV light shine on the catalyst, a reaction occurs creating ions that decontaminate air and surfaces. These ions are created when H<sub>2</sub>O vapor is rearranged by the catalytic reaction into other ions.

#### **Ionization**

An ion is a charged atom or molecule. Because these atoms and molecules have energy potential, they have the innate ability to help rid the air of various pollutants and other harmful compounds they interact with and to produce reaction byproducts.

Bipolar ionization (BPI) uses ions as antimicrobial agents. The ions are typically produced by applying voltage to electrodes to create an electric field. Different electrical arrangements give

rise to different variants of bipolar ionization devices, e.g., corona discharge, dielectric barrier discharge, needlepoint bipolar ionization, vaporous hydrogen peroxide (VHP), etc.

### **Other technologies**

The TG would evaluate all the emerging technologies that fit the definition of Reactive Air and Surface Treatment.

### **Working with other TCs**

The TG for Reactive Air and Surface Treatment would seek to find out the TCs that are involved with Reactive Air and Surface Treatment. A good example is TC 2.9 which is the main committee looking at UVC.

### **ASHRAE Test Standard for Reactive Air and Surface Treatments**

ASHRAE has formed SSPC-185.3P to develop a test method for in-room air cleaners, including Reactive Air and Surface Treatments, for the removal of bioaerosols. The TG would work with SPC-185.3P to fill gaps in the MOT and to use data they obtain to further our knowledge of devices covered in the TG for other uses.

### **Impact on Other TC/TG/TRGs:**

The TG for Reactive Air and Surface Treatment will coordinate its efforts with the recently-formed SPC-185.3P. Working together with SPC-185.3P, the TG can help validate the methods of test being developed.

ASHRAE documents that can use the results obtained by the TG for Reactive Air and Surface Treatment include:

- ASHRAE Position Document on Filtration and Air Cleaning,
- ASHRAE Epidemic Task Force on Schools & Universities
- ASHRAE Position Document on Infectious Aerosols.

TCs that can directly benefit from the TG on Reactive Air and Surface Treatment include:

- TC 2.3 Gaseous Air Contaminants and Contaminant Removal Equipment
- TC 2.4 Particulate Air Contaminants Particulate Contaminant Removal Equipment
- TC 2.9 Ultraviolet Air and Surface Treatment.

In addition to the knowledge to be shared, these TCs all lead Handbook chapters that will benefit from data that will eventually be gathered from any new test standards including both the efficiency of various types of devices and their influence on the air quality due to them.

### **Initial tasks for TG Reactive Air and Surface Treatment**

The initial task of the TG is to review the available information on related test standards and the testing of these devices then form the appropriate committees to produce an MOT standard (or more than one) for duct-mounted devices needing multiple passes through the air cleaner and for in-room and duct-mounted devices against non-bioaerosol challenges.

**TG/TRG Roster:**

- minimum of 6 members; maximum of 18 members
- no more than one (voting) member from each company
- identify subcommittee chairmen (program, standards, research [TG's only]) where possible
- Chair & Vice Chair must be ASHRAE members
- maximum of 2 member non quorum

The roster below represents a balance of voting members. The below includes:

- Engineer
- Scientist
- Academic
- Building owner
- Testing engineer
- CFD Engineer
- Manufacturer

The proposed members below represent a balanced committee and will be the initial team to begin the work of the TG. A top priority of the TG will be to look at recruiting additional experts that will broaden the knowledge of the Group regarding Reactive Air and Surface Treatment. To be successful, the TG will need to have a balanced membership with diverse options on the technologies. This TG will only be successful if it can develop a consensus among the Group with the broad range of Reactive Air and Surface Treatments being offered today.

Specifically, additional members that will be sought out include:

- International members that are testing Reactive Air and Surface Treatment using international standards
- Other expert stake holders to ensure the Group covers the existing technologies
- Testing experts to ensure that the intricacies of testing these devices in understood

|   |                    | <i>Person's Name:</i> | <i>Profession</i>      | <i>Company</i>                      | <i>ASHRAE Member #</i> |
|---|--------------------|-----------------------|------------------------|-------------------------------------|------------------------|
| 1 | <b>Chair:</b>      | David A John          | Engineer               | Stan Weaver & Co.                   | 2052263                |
| 2 | <b>Vice-Chair:</b> | Kathleen Owen         | Engineer               | Owen Air Filtration Consulting, LLC | 8081157                |
| 3 | <b>Secretary:</b>  | Matt Middlebrooks     | Former Manufacturer    | Consultant                          |                        |
| 4 |                    | John Weems            | Building Owner         | USAA                                |                        |
| 5 |                    | Larry Sunshine        | Manufacturer           | Plasma Air                          |                        |
| 6 |                    | Charlie Waddell       | Manufacturer           | Global Plasma Solutions             |                        |
| 7 |                    | Bob Burkhead          | Test Engineering       | Blue Heaven Technologies            |                        |
| 8 |                    | Shinsuke Kato         | International Academic | University of Tokyo                 |                        |
| 9 | Consultant (NV)    | Kishor Khankari       | CFD Engineer           | AnSight                             |                        |

|                      |                            |                     |               |
|----------------------|----------------------------|---------------------|---------------|
| <b>TAC USE ONLY:</b> |                            |                     |               |
| Date Received: _____ | Date Sent to TAC/FP: _____ | Meeting Date: _____ | Approved? Yes |

**Proposed changes to the TC-MOP Approved 20160625 last revised 20200625**  
**Proposed by: Larry Smith, incoming TAC Chair**  
**April 27, 2021**

## **Change #1**

Rationale: There have been some recent conversations by individual members of a FG using ASHRAE's Basecamp on a topic somewhat related to the FG's scope. The internal conversations were spirited and somewhat productive, however they were also communicated to an outside individual without the appointment of an Official or Unofficial Liaison as outlined in this MOP. Also, it was unclear in the communications whose opinion the communications represent. The below highlighted changes in RED and BLUE will clarify this matter for future communications to outside organizations, individuals, and companies.

- 7 **Contacts outside the Society between ASHRAE and other organizations, individuals, and companies**
  - 7.1 **Official Organization Liaisons**
    - 7.1.1 Official Liaison appointments to represent the Society in a specific technical area (except standards – see [Section 7.1.5](#)) shall be made by the TAC Chair with the advice of the TC/TG/MTG/TRG at interest, with the advice of the Director of Technology, and with the approval of the Coordinating Officer.
    - 7.1.2 Official liaisons shall be known as TAC Inter-Society Liaisons. TAC Inter-Society Liaisons are required to submit a status report to the TAC Liaison Coordinator at least 30 days prior to the Annual meeting.
    - 7.1.3 Instructions for voting as a TAC Intersociety Liaison shall be given to them by TAC and their committee with the proviso that, if there is a new activity, this will first be reported to TAC and the Board for its consideration so that the Board will not be giving blanket delegation of authority, but will have approved in advance the character, scope and general contents of this activity. Thereafter, it will be the duty of TAC and the committee involved to instruct the TAC Intersociety Liaison as to how to vote to accomplish this.
    - 7.1.4 Procedures:
      - a) TC/TG/MTG/TRGs shall cooperate with the TAC Liaison Coordinator to make him/her aware of other organization activities, which are of interest to ASHRAE. When the TC/TG/MTG/TRG believes it is in the best interest of ASHRAE to liaise with another organization, the TC/TG/MTG/TRG shall recommend to the TAC Liaison Coordinator, that such an official liaison be established.
      - b) In cooperation with the TAC Liaison Coordinator, the TC/TG/MTG/TRG Chair shall recommend a liaison to another organization from the membership to the TAC chair for consideration. The TC/TG/MTG/TRG shall identify in writing the organization and the TC/TG/MTG/TRG member who they recommend liaise with that other organization to the TAC Liaison Coordinator. The complete organization name and its location must be used to identify the organization.

- c) Changes in participants may be made by the TC/TG/MTG/TRG Chair in consultation with the TAC Liaison Coordinator and approval of TAC chair and others noted above.

~~7.1.5~~ The Standards Committee supervises ASHRAE's participation in the standards work of other organizations including the American National Standards Institute (ANSI) and international and regional standards organizations including the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). TC/TG/MTG/TRG contacts outside the Society on standards-related issues shall be conducted through the Code Interaction Subcommittee (CIS) of Standards Committee. CIS oversees ASHRAE's participation in the development of model codes and standards by other Standards-Developing Organizations that have relevance to ASHRAE technical interests.

Formatted

## 7.2 Unofficial Liaison Appointments

- 7.2.1 May be made by a TC/TG/MTG/TRG, at its discretion, for one or more of its members to act as liaison to other organizations for the purpose of gathering and disseminating information between the two organizations.
- 7.2.2 Duties and Responsibilities of Unofficial Liaisons
- The designated participant is an individual member of the TC/TG/MTG/TRG and, in this capacity, expresses individual opinion, not that of ASHRAE, TAC or the TC/TG/MTG/TRG.
  - The Liaison shall advise the organization, in writing, as follows:  
"I have been appointed as the ASHRAE TC/TG/MTG/TRG Liaison to your organization. My participation will be based on my professional opinion and will not necessarily be reviewed by the Society or constitute a position or a standard in the matter being discussed."

## 7.3 Liaison Expense reimbursement

- 7.3.1 Both Official and Unofficial Liaisons shall have cognizance of their particular subject areas and pay their own expenses.

## 7.4 Communications between a TC/TG/MTG/TRG and other organizations, individuals, or companies.

7.4.1 Contacts between a TC/TG/MTG/TRG and other organizations, individuals, or companies outside of ASHRAE, wherein an opinion or position is stated, and without Society endorsement must make it clear that the TC/TG/MTG/TRG is speaking on behalf of that TC/TG/MTG/TRG only. There shall not be any implication of Society endorsement. ~~A disclaimer such as~~ The following disclaimer shall be included in all such communications: This information is the consensus opinion of the TC/TG/MTG/TRG only and does not represent an ASHRAE position. An ASHRAE letterhead shall not be used for such communications as it may imply Society endorsement.

~~7.4.1~~ 7.4.2 Communications between a TC/TG/MTG/TRG and other organizations, individuals, or companies outside of ASHRAE as stated in Section 7.4.1 above require approval by a majority vote of the current Voting Members of the TC/TG/MTG/TRG.

7.4.3 If individuals of the TC/TG/MTG/TRG communicate directly with outside organizations, individuals, or companies not on behalf of the TC/TG/MTG/TRG and an ASHRAE communications mechanism (e.g., a webpage or chat forum) is used, their communications shall include an additional disclaimer: This information represents my own opinion and not that of the TC/TG/MTG/TRG. This provision includes, but is not limited to, communications using ASHRAE Basecamp.

Formatted: Underline

7.4.27.4.4 If one or more TC/TG/MTG/TRG's wish to communicate with organizations outside of ASHRAE, and imply ASHRAE Society endorsement or express an ASHRAE position that is not already covered in an ASHRAE approved position document, then the following approvals are needed: TAC, TechC Doc. Review Subc., TechC, BOD ExCOM, and the ASHRAE President. Only the ASHRAE President speaks for ASHRAE.

**Proposed changes to the TC-MOP Approved 20160625 last revised 20200625**  
**Proposed by: Larry Smith, incoming TAC Chair**  
**April 27, 2021**

## **CHANGE #2**

**Rationale:** A violation of the TC MOP voting membership rules was brought to the attention of TAC by an ASHRAE member after reviewing the TC 5.3 roster. There are currently two Voting Members from the same affiliated company or division. This is currently covered by the current TC MOP under Section 3.2.4 and will be addressed by the Section Head.

A proposed CHANGE is offered on a different but somewhat related membership issue: on TC 1.11, the current Chair and another Voting Member, and on TC 5.1, two Voting Members, are all associated with the same organization. In both cases, one Voting Member is listed as an employee of an outside organization while the other Voting Member is listed as a Director of the same organization. As a Director, there is a fiduciary duty to that organization, so it seems that there is at least a perceived voting conflict. The below changes highlighted in RED will clarify this matter.

### **3 Membership Categories**

#### **3.1 General**

- 3.1.1 Prospective Committee members shall complete an online biographical record (available at <http://www.ashrae.org/>).
- 3.1.2 A TC/TG/TRG shall consist of approximately 12 Voting Members, with a minimum of six (6) and a maximum of eighteen (18).
  - a) If the committee would have only 5 Voting Members (VM), one Voting Member – Non Quorum (VMNQ) may be counted as a Voting Member in establishing the minimum number of voting members (see section 3.2.7)

#### **3.2 TC/TG/TRG Voting Members**

- 3.2.1 Have full voting privileges
- 3.2.2 Other than the TC/TG/TRG Chair, shall be appointed annually for not more than four consecutive one-year terms.
- 3.2.3 An exception for additional consecutive terms may be granted by the TAC Chair if the TC/TG/TRG makes a written request and that request is approved by the Section Head. The extended appointment shall be made only if it serves the best interest of the Society.
- 3.2.4 Only one person from any employer, organization, university, or specific government agency may serve as a Voting Member on the same TC/TG/TRG at one time
  - a) A consultant to any category in this subsection who is contracted to that organization is considered to be an employee for the purposes of determining voting status on the TC/TG/TRG if the contract provides

substantially all of their consulting activity.

a+b) A person who has a fiduciary duty to an external organization (e.g., a member of the Board of Directors of the external organization or an Executive Officer of the external organization) is considered to be an employee of that organization for the purposes of determining voting status on the TC/TG/TRG, even if the position with that external organization is in a volunteer capacity. Examples of Executive Officer roles include Chairman, President, Vice-President, Treasurer, and Secretary. This provision does not extend to a member of an external organization that does not have a fiduciary duty to that organization.

- 3.2.5 Voting Members should serve at least one term previously as an active Corresponding Member. This does not apply to voting members who have previously served as a Voting Member of this same committee
- 3.2.6 While there may be circumstances when a Voting Member may be appointed without previously having served on the committee, preference should be given to those who have served on the committee in a prior year as a corresponding member of that committee.
- 3.2.7 Voting Members have two subcategories
  - a) Voting Member - Quorum (VM)
    - i) Regular member and always counts towards the determination of quorum for a committee meeting.
    - ii) Includes all Voting Members of the committee other than those in the Voting Member - Non-Quorum category in 3.2.7 b).
  - b) Voting Member - Non-Quorum (VMNQ) is a special category for TC/TG/TRG members who are not able to attend every meeting due to travel costs and constraints.
    - i) No more than two non-quorum voting members are allowed in each TC/TG/TRG.
    - ii) A Voting Member-Non Quorum has identical responsibilities, privileges, and constraints as a Voting Member-quorum with two exceptions:
      - 01) A Voting Member-non-quorum is not counted against the maximum number of Voting Members cited in Paragraph 3.1.2
      - 02) The absence of a Voting Member-non-quorum does not affect the determination of quorum as described in section 5.