M I N U T E S

TECHNICAL ACTIVITIES COMMITTEE

2022 Annual Meeting

June 25 & June 29, 2022

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

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June 25 & June 29, 2022

PRINCIPAL MOTIONS
TECHNICAL ACTIVITIES COMMITTEE
June 25 & 29, 2022

No.	Motion	Status
1	that the draft minutes from TAC#11 virtual meeting be approved as submitted.	PASSED
2	to approve the revised FG MOP (**Attachment A**) and new MTG MOP (**Attachment B**).	PASSED
3	that existing MTGs be asked to confirm with the newly approved MTG MOP by 7/1/2023 with one of the following actions:	PASSED

LIST OF ATTACHMENTS

ATTACHMENT A: Revised Functional Group (FG) Manual or Procedures (MOP)
ATTACHMENT B: New Multi-disciplinary Task Group (MTG) MOP
ATTACHMENT C: FG Summary Dashboards
ATTACHMENT D: TAC MBOs for SY 21-22
ATTACHMENT E: TC chairs breakfast slides
ATTACHMENT F: TC chairs breakfast handout
ATTACHMENT G: MTG.OBB to TC 7.10 proposal
ATTACHMENT H: TG9.SPACE proposal
ATTACHMENT I: proposal for MTG Corresponding Member category in FG MOP
ATTACHMENT J: MTG.RES proposed Roadmap
ATTACHMENT K: ISI status
ATTACHMENT L: BOD Ex-O PEAC presentation

LIST OF ACRONYMS

ACGIH	American Conference of Industrial Hygienists	PCM	Provisional Corresponding Members
AI	Action Item	PDH	Professional Development Hours
ASHRAE	American Society of Heating, Refrigerating and Air-conditioning Engineers	PEAC	Presidents Elect Advisory Committee
BOD	Board of Directors	PD	Position Document
CTTC	Chapter Technology Transfer Committee	RAC	Research Administration Committee
CNV	Chair Not Voting	RAST	Reactive Air and Surface Treatment
ETF	Epidemic Task Force	RES	Resiliency
Ex-O	Ex-Officio	ROB	Rules of the Board
FG	Functional Group	RP	Research Project
ISI	International Standards Interaction	SH	Section Head
MBO	Management by Objectives	TAC	Technical Activities Committee
MOP	Manual of Procedures	TC	Technical Committee
MTG	Multi-disciplinary Task Group	TFBD	Task Force for Building Decarbonization
OBB	Occupant Behavior in Buildings	TG	Task Group
OPS	Operations Subcommittee	TRG	Technical Resource Group

M I N U T E S
TECHNICAL ACTIVITIES COMMITTEE
June 25 & 29, 2022

MEMBERS PRESENT:
Larry Smith, *Chair*
Craig Messmer, *Vice Chair*
Dave Meredith, *Co-Section 1*
Corey Metzger, *Co-Section 1*
Jon Cohen*, Section 2*
Stuart Dols, *Section 3*
Vance Payne, *Section 4*
Kevin Marple, *Section 5*
Doug Reindl, *Section 6*
Satheesh Kulankara, *Section 7*
Charles Henck, Co- *Section 8 & Section 10*
Kevin Mercer, *Co-Section 8*
Brad Cochran, *Section 9*
Victor Goldschmidt, *Special Activities Coordinator*
Jaime Bennett, *Training Coordinator*
Rick Hermans, *BOD Ex-O*
Tim McGinn, *Coordinating Officer*

GUESTS:
Tony Abate
Tina Brueckner, Incoming Member
Elli Cloyd
Kevin Gebke
Ian Kavanaugh
Birol Kilkis, Incoming Member
Sarah Maston, Incoming CO
Patrick Marks, Incoming Member
Mick Schwedler

ASHRAE STAFF:
Steve Hammerling, *MOTS*
Tara Thomas, *AA*

MEMBERS NOT PRESENT:
Dan Dettmers, *Section MTG*

***

A. **TAC Part A - Call to order**
Chair Larry Smith called TAC meeting to order at 8:00 AM EDT.

B. **Determine quorum – quorum verified**
Staff confirmed quorum at the start of the meeting with 15 of 16 voting members in attendance at the start of the meeting.

C. **Identify and welcome guests**
Smith welcomed all to the call. Members, incoming members, and guests introduced themselves.

D. **Code of Ethics:**
The chair reminded all *"we shall avoid all real or perceived conflicts of interests."*. With the recent CHANGES to the TC MOP requiring BALANCE for the voting membership we remove the appearance of bias and conflict of interest.

E. **Changes/approval of the agenda**
Changes and edits to agenda would be made as they arise. No specific changes were suggested at this time.

F. **Approve DRAFT minutes from TAC #11 Virtual Meeting**
Minutes from TAC #11 held May 10, 2022 were emailed to the committee June 1, 2022.

(1) It was moved (Goldschmidt) and seconded (Kulankara) that the draft minutes from TAC#11 virtual meeting be approved as submitted.

Motion 1 Vote: 10-0-0 CNV – PASSES

G. **Functional Group (FG) and Multidisciplinary Task Group (MTG) Manual of Procedures (MOP) changes**

(2) It was moved (Marple) and seconded (Cohen) to approve the revised FG MOP (**Attachment A**) and new MTG MOP (**Attachment B**).

Motion 2 Vote: 13-0-0 CV – PASSES

Background: The FG MOP was emailed May 31st and MTG MOP was emailed May 24th.

Smith thanked all for review and engagement on this topic. Staff would post updated documents on ASHRAE website, TAC Basecamp and TC Leadership Basecamp.

(3) it was moved (Cohen) and seconded (Henck) that existing MTGs be asked to confirm with the newly approved MTG MOP by 7/1/2023 with one of the following actions:

a. Disband
b. Merge with an existing FG
c. Submit as a new FG
d. Re-submit as a new MTG following the current MOP and Expectations

MOTION 3: 13-0-0 CV PASSES

MTG Section Head(s) were asked to communicate this to existing MTGs (**Action Item 1**).

There were concerns if MTGs could meet balance requirements given nature of these committees.

The FG and MTG MOP changes would be reported to Tech Council Operations Subcommittee (OPS) as an information item.

H. **ASHRAE/ACGIH Industrial Ventilation Conference**
Marple reported on ASHRAE/ACGIH Industrial Ventilation 2022 conference. This was held immediately ahead of the ASHRAE conference in Toronto. 13th Industrial Ventilation conference. TC 9.2 played prominent role in organizing.

Marple noted there is a lot to overlap with ASHRAE in the ACGIH's work. Marple asked for assistance from the Section Heads to identify TC's in their section that would potentially have "Industrial Ventilation" interest in future conferences and ask them for the contact information

(**Action Item 2**). The goal is to get stakeholders involved (presentations, organizers, attendees) at future ACGIH/ASHRAE conferences.

Marple agreed to present slide at TC Chairs Breakfast.

I. **FG Summary Dashboards & FG Eval Reports**
Kulankara summarized a presentation (**Attachment C**) showing a summary of data from the FG Activity sheets. Trends on FG attendance, programs, research activity dating back to the 2019 Winter Meeting were shown and discussed. Smith asked for slides 2 & 3 to be included in report to Tech Council. TAC will continue to collect and analyze this data.

FG Evaluations are planned for Winter meeting.

J. **Management by Objectives (MBOs)**
An update on TAC MBOs for SY 21-22 (**Attachment D**) will be reported to Operations Subcommittee (OPS) of Tech Council at their meeting on Tuesday.

K. **Roster update status and electronic updates**
Thomas is distributing rosters today. Outgoing TC chair certificates will be available for distribution at TC chairs breakfast.

Reiniche is working with vendor on electronic roster update process. A flow chart of procedures was shared with vendors. Reiniche to report at Tech Council and OPS meetings.

L. **Breakfast Meeting training**
A draft presentation for TC Chair Breakfast meeting was discussed. The full presentation (**Attachment E**) and handout (**Attachment F**) would be uploaded to TAC/TC Leadership Basecamp (https://3.basecamp.com/3106353/projects/15520814).

M. **Transition**
Smith passed the gavel to Messmer for the balance of the Saturday meeting and highlighted the following**:**
- TAC should prepare Toronto's FG er training and requested 30 minutes at the start of the training. Smith asked for 30 minutes at start.
- Smith is working on FG MOP rewrite aiming for TOR approval. A MTG MOP in development as well.

N. **Potential Motions**
a. **Motion** on MTG.OBB conversion to TC 7.10 – **Attachment G**
MTG was asked for more information after last TAC call. Dettmers was not on meeting to update.

b. Follow up on TC 6.10 **Motion** to approve statement on Decarb Task Force
Reindl noted no further action required. He reached out multiple times and a request for liaisons to the TFBD was not responded to by TC and suggested removing motion from agenda going forward.

Reindl noted more generally that there are concerns related to TC 6.10 membership and participation. The roster may need to be rebuilt. A meeting with TC leadership and SH, TAC leadership to determine a plan or how TAC can was suggested.

c. Motion to approve new TG9.SPACE (Cochran) – **Attachment H**

Motion was not considered at this time. TAC is awaiting response to a previous request for information and can discuss at Wednesday meeting.

d. Motion to create MTG Corresponding Member category in TC MOP - **Attachment I**
Motion was not considered at this meeting. TAC will await input from Dettmers.

O. **TAC Successes**

Smith referenced several activities TAC is currently undertaking. These are listed here as information items for TAC members.

a. New TG2.RAST – TG approved and meeting
b. New MTG.RES – MTG approved and meeting
c. Approved two (3) changes to TC MOP including balance
d. Since July 1, 2021 this is the 12th TAC meeting
e. ALL FG's now have a basecamp
f. ALL FG sections have a basecamp – This was done in response of the Research Committee ability to communicate to the FG's. It is envisioned the FG committee chairs (research, standards, handbook, and others) would be a part of the section basecamp to facilitate communications with the governing committee liaisons and each other within a section.
g. Kevin Marple, Dave Meredith, and Corey Metzger have actively engaged several TC's with voting membership realignment with the TC MOP
h. The final bite, "Thinking Like a Leader", for Leadership Training is now completed and on ASHRAE website
i. Both the Chair and Vice-Chair have been in conversation with the TFBD (Task Force for Building Decarbonization) on engaging the FG membership for assistance
j. Douglas Reindl has been instrumental with an inquiry from 90.1 with TC 6.1
k. Approved CHANGE to TC MOP requiring balance or TAC Chair approval
l. TechC approval for automating roster changes ($25,000) – **FUNDS APPROVED!!!!**
m. TechC approval for automating FG Evaluation / Activity forms ($125,000)**:** Staffer Stephanie Reiniche is consulting with programmers on changes and will meet with a small TAC team when ready. (Smith/Messmer/Bennett will participate for now and will ask for more volunteers soon). Kickoff meeting was March 9. A process flowchart was given to vendor.
n. ASHRAE Society President (Mick Schwedler) below comment in Victor's Leadership Development Program:

> Thanks to everyone for the work, the vision to provide these for our Members, and for the access.
> Perhaps you want to bring a recommendation for dissemination through Tech Council so that all the other Council leadership knows of this and can provide to their Committees.
> I'm looking forward to learning how to become a better leader myself.
> Congratulations on a job well done.
> Best regards,
> Mick Schwedler, PE, FASHRAE
> ASHRAE 2021-22 President

~~o. Put in motion the merging of TC 8.9 with TC 10.7 (Mercer/Henck)~~
p. Participation in review of Decarbonization position document
good response from TCs on PD. Thanks to all who participated.
q. Liaison assignments to Decarb Task Force
Submitted liaison list to TF. Thanks to all who participated and quick turnaround.

P. **Goals fulfilled for Winter and Progress to maintain for Annual 2022 conference**

a. Section Head engagement with the FG leadership
b. ASKTAC@ASHRAE.net

c. FG leadership succession
d. FG voting member balance
e. FG evaluation form
f. FG Activity Form
g. FG roster cycle completed as outlined in Appendix B (as amended) in the TC MOP
h. Improved breakfast meeting experience

Q. **Old business / Action Items (Please be prepared to respond to below action items)**
Completed actions are struck below. TAC members asked to complete assigned actions listed below.

1. ~~Staff/Dols - noted merged TC (Section 3) website content, staff was asked to coordinate and archive – staff working w IT to archive, link to old info from new TC website. ***Complete.***~~
2. ~~Cohen + Payne - were asked to assure TRG4 and TG2 coordinate as there may be overlap in rosters and work . ***Complete***~~
3. ~~Cohen – final roster approval for TG2.RAST – TG2 roster submitted for Cohen review. Close to approval. ***Complete***~~
4. ~~Payne - Balance for TGR4 is due 8/1 (past due!) . ***Complete***~~
5. ~~Smith - TC 5.9 meeting monthly and working very effectively. Productive in between meetings. Can we push this concept to other TCs? Tout as a success story at breakfast? 9/1/21 Smith requested a 2-mintue mp4 for presentation during the TAC breakfast meeting. ***Complete***~~
6. ~~Smith + Marple - Need to send current Code of Ethics and distribute (include in agenda template). Smith wants to expand the Code of Ethics presentations. ***Complete***~~
7. Smith + Mercer + Henck - Pushing TC 8.9 (residential refrig./freezer) to merge with 10.7 (commercial refrig./freezer) but there's some hesitancy. Engage with TC leadership and figure out plan before Las Vegas meeting. TC 8.9 is moving to merge with TC 10.7. TC holding interim vote before Toronto. TAC awaiting TC vote. TC 8.9 did not meet in Vegas and is dissolving so 10.7 vote is key here. TAC will address when Mercer on call.- Discussed in Part B TAC meeting
8. Smith + Cochran - Noted TC 9.8 is only interest is Handbook. 15-20 members for 10 ASHRAE Handbook chapter. Is this a really a TC if they don't do other activities? Do they need help with research and program issues? –**Continue to monitor.**
9. ~~Goldschmidt – need your CHANGES to the TC MOP!!!~~
   ~~VG completed the TC MOP change suggestions and will send for review to all TAC members. Goal to consider finalizing in TOR.~~
   ~~MTG MOP. Operate much differently. Different charge, so MOP will need to be different. Aim for TAC to consider Saturday in TOR.~~
   ~~There was discussion on lack of requirement for ASHRAE membership for all MTG/TC members. Does code of ethics apply if they are not ASHRAE members. Smith agreed to draft proposal to require membership of all FG members (**Action Item #33)** for discussion on TOR agenda. ***Complete***~~
10. ~~Staff would let nominators know results of Hightower scoring~~
11. ~~Section Heads are asked to poll their TCs for volunteers on Decarbonization Task Force and forward interested parties to Mercer~~
12. Status of MTG.RES (Dettmers) – MTG Roadmap – **Attachment J**
13. ~~Status TRG2.RAST (Cohen) conducted first meeting in January 2022.~~
14. ~~Submit written section reports to TAC basecamp (Section Heads)~~
15. (Smith) Action Items:
    a) Virtual Meeting – best in class (Smith/staff)
    b) ~~TC 9.11 sub-committee meeting~~
    c) CTTC initiative (Smith, Metzger, Constantinide) – had 1st meeting!
    d) PDH credits for auto tutorials (Smith/Staff - Murray)
    e) Electronic Roster Implementation (Staff, Smith, +1 TAC volunteer)

f) ~~Revise TC MOP for MTG to have separate MOP (Goldschmidt/Marple/Dettmers)~~
g) Respond to TFBD final report recommendations
h) Determine transitioning guidance/future actions from ETF into Functional Groups (Metzger & Marple)
i) ~~Update TechC MBO's ***Complete***~~
j) Changes to Hightower Award presentation (Staff) motion to TechC
k) ~~Post TC standards and handbook responsibilities to TAC Basecamp (Staff)…will put into revised TC MOP (Smith) ***Complete***~~

16. ~~Implement TC title, scope changes (TC 9.8, MTG.RES) from Las Vegas (Staff) - **Complete**~~
17. ~~TC 1.6 Terminology and TFBD Recommendation #6 (Smith)~~
18. ~~New standard titled Evaluating Greenhouse Gas (GHG) and Carbon Emissions in Building Design, Construction and Operation. Advise TCs 7.6 and 2.8 as co-cognizant (Mercer/Cohen) Smith attended and advised who could be co cognizant. They are listed as such now. **Complete**.~~
19. ~~Update the status and future of TC 7.4 (Kulankara) – **Complete**~~
20. ~~Submit activity forms and section reports from Vegas to Basecamp (Section Heads)~~
21. ~~Staff compile list of TCs with Handbook and Standards responsibilities (Staff)~~
22. ~~Implement TC 9.8 changes to website and other places as appropriate (Staff) – repeat of #16 above~~
23. ~~TAC Reviewers for 2022 Annual Conference Program Submissions~~
24. Submit written section head reports to Basecamp with activity reports (Section Heads) still a couple missing.
25. Submit TC 1.5 scope change at next meeting (Meredith) - closed . voted on in April TAC meeting
26. Develop reports based on activity form data for posting to website (Messmer)
27. Cohen/Smith with brief update on RAST (next meeting 3/2/22)
28. Section Heads were asked to send feedback on virtual meetings, positive feedback/suggestions to improvements, etc. to Maston before mid-March. Maston did get some feedback to pass along. Members can still send input if they wish.
29. SHs were asked to identify where they saw gaps in training when they came onto TAC and send to Mercer for inclusion in training
    Asked for SHED feedback by end of May.
30. SH9 to ask TG9.SPACE to identify certain tasks for their proposal
    kept on agenda for Cochran to update
31. TAC to develop language to MOP for PCMs to MTG
32. Reindl to coordinate meeting with TC 6.10 and TAC leadership (**New!**)
33. Smith to draft proposal to require membership of all FG members (**New!)**

R. **<u>New Business</u>**

a. (Messmer) FG Evaluation forms / Activity Forms / Section Head Reports
b. (Bennett) What training topics do we need to cover?
c. Goldschmidt / Mercer – Brief TC MOP update. Approved at this meeting.
d. ~~Decarb Task force overview and TC 6.10 issues (Reindl, Mercer, Messmer, Smith)~~
e. TC 6.3 Code of Ethics Issue (RP1705) (Reindl)
f. Follow up with TC 1.6 (Meredith / Metzger)

6	ASHRAE should develop one set of aligned carbon definitions and terminology, and all standards should reference that document. Whenever possible, these definitions should align with globally accepted definitions that have already been developed.	June 2022	TFBD Tech Council / Standards Pub-Ed

g. ISI Task Group status (Messmer)
2/21/2022 status (**Attachment K**)
1. To ask the Section heads to discuss with their TCs how their TCs can promote Global outreach. We have a task group within the ISI Task Force focused specifically to reach out to the TCs. This task group will meet in March to make a list of things to ask of the TCs. Some ideas so far: to increase international participation; to globalize standards, handbooks, and programs as much as possible; to consider R&D needs for international applications, buildings, and products.
2. To approve the addition of a check box on the Activities Form whether the TC included Global outreach in their agenda (YES/NO). The presumption is that some TCs will take action on this. No one expects that every TC will do so.

h. ~~Section Heads asked to identify TCs that may wish to liaise with the TFBD.~~ **~~Complete~~**~~.~~ ~~Liaisons sent to TFBD~~

S. **Adjourn**
Messmer adjourned TAC Part A meeting at approximately 11 AM EDT. TAC would reconvene with TAC Part B on Wednesday at 7:00 AM EDT.

T. **TAC Part B - Call to order**

Chair Larry Smith called TAC meeting to order at 8:00 AM EDT.

U. **Review of Change to membership requirements in FG MOP**
McGinn requested TAC review and consider changing their decision on changes to FG Voting member requirement approved Saturday. Staff provided a summary of who this change would affect.

3.2 Voting Members
- 3.2.1. Effective July 1, 2023, the Chair, Vice-Chair, and each voting member must be an ASHRAE member in good standing. A waiver may be granted by the Section Head.
- 3.2.2. Have full voting privileges.
- 3.2.3. Shall be appointed annually for not more than four consecutive one-year terms, regardless of other positions held in the FG.
- 3.2.4. An exception for additional consecutive terms may be granted by the TAC Chair if the FG 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.
- 3.2.5. Only one person from any employer, organization, university, or specific government agency may serve as a Voting Member on the same FG at one time.

FG VOTING MEMBER ANALYSIS (SY 21-22)

There are currently 1004 voting positions on FGs (TC, TRG, TG, MTG) held by 785 different people. Of the 1004 voting positions on FGs, 79 are held by non-ASHRAE members. These 79 positions are held by 71 different people. This is 7.9% of positions and 9.0% of people.

Breakdown of where the 71 different people that are non-members holding voting positions on FGs are from:

- *7 Canada*
- *2 China*
- *2 Germany*
- *1 France*
- *1 Israel*
- *58 USA*

Breakdown of what positions on FGs are held by the 79 non-voting members:

- *2 Chairs*
- *6 Vice Chairs*
- *3 Secretary*
- *1 Program SubC chair*
- *3 Research SubC chair*
- *1 Handbook SubC chair*
- *1 Standards SubC chair*
- *1 SubC chair (?)*
- *4 Webmaster*
- *50 Member*
- *6 Member Non-Quorum*

TAC discussed further but no motion was made to amend changes made Saturday. TAC supported the changes made earlier. Meredith suggested a letter to TC members to make them aware of the change and to explain the reasoning behind the change (**Action Item 3**).

V. **BOD Ex-O report**

Hermans presented to BOD Ex-O report (**Attachment L**). Highlights included the following:

- Simplified Rules of Order
- New President Mahboob with theme of Securing our Future
- Decarb new hot topic. Seeking DLs
- Decarb PD was approved.

W. **SECTION HEAD REPORTS (3 to 5 minutes per section)**

Section Heads were asked to summarize section reports with an emphasis on motions and issues that would need TAC attention. Reports should be uploaded to Basecamp. Items requiring TAC attention are listed below.

Section 1

Meredith noted the TC 1.5 name change is done. Need to confirm all approvals were made and to update website and other documents.

Section 2

Cohen noted there was a request that the Hightower Award be presented at ASHRAE Plenary. Asked if TAC can send Decarbonization PD to all FG Chairs (**Action Item 4**).

Section 6

Reindl noted an ethics issue in his section from Las Vegas has not been resolved and a formal complaint may be made. Reindl asked that the TC 6.3 (RP1705) be kept on TAC agenda.

Section 7

Kulankara suggested a way to help non-TC members to be aware and participate in interim TC meetings, not at Winter or Annual Meeting. Staff has explored something like this in the past as a

website, listserv or bi-weekly meeting notice. Many FGs do not broadcast their meetings or subcommittee meetings, even to staff so being aware of such meetings to broadcast has proved difficult. TAC should continue to explore.

Kulankara highlighted that TC 7.4 met for the first time in two years and is looking healthier.

Section 8
TC 8.9 has retired, and TC 10.7 voted (5-0-0-2) to approve a merger. TC 10.7 is working on a modified scope to include 8.9 and will request approval when ready.

Section 9
Cochran brought up the proposal for a new TG9.Space (**Attachment H**). The proposers were requested to add additional information to their scope. A motion to approve was made (Cochran) and seconded (Meredith)but eventually pulled. TAC discussed and TG would be asked to identify specific tasks into their scope. Bennett and Cohen were asked to detail their comments and send to Cochran

Section 10
Henck reported the current chair of 3.8 has been struggling to meet quorum and wishes to merge with TC 10.1, Commercial Refrigeration Systems. TC 10.1 did discuss and agreed 3.8 would fit within. They will consider a formal consideration in near future.

Section MTG
TAC did not consider the motions to approve the MTG.RES Resiliency Strategic Implementation plan or to approve the conversion of MTG.OBB request to convert TC 7.10. The MTG Section Head was not in attendance to update TAC on progress.

X. **NEW BUSINESS**

a) Metzger was proposed as a TAC membership coordinator with the job to increase TC participants with chapter members. He would work with Larry Smith and John Constantinide.

b) TAC is collecting feedback from FGs to develop a best practices document specific to FG hybrid meetings. This will build off the guidance from the ECC but be specific to FG meetings.

c) Kevin Marple was asked to review the TAC MOP and Reference Manual and Rules of the Board to see if changes are warranted after new FG and MTG MOPs (**Action Item 5**).

d) Handover to New Chair (Smith and Messmer)
   1. Messmer thanked TAC members rolling off, thanking them for their service:
      - Stuart Dols
      - Vance Payne
      - Victor Goldschmidt
      - Larry Smith, Chair
      - Rick Hermans, Ex-O & Tim McGinn, CO

   2. Messmer thanked new TAC members rolling onto the committee:
      - Patrick Marks
      - Tina Brueckner
      - Birol Kilkis
      - Vikrant Aute
      - Luke Leung Ex-O & Sarah Maston, CO

e) Incoming Chair Craig Messmer

1. Plans for SY 22-23
   Messmer noted his focus would be on implementation of changes made this SY.

2. TAC position assignments SY 22-23
   Messmer presented proposed TAC assignments for upcoming SY:

TAC Member 2022-23	Role
Craig Messmer (23)	Chair
Jamie Bennett (23)	V. Chair
Kevin Mercer (23)	Training Coordinator
David Meredith (25)	Section 1 (1-6)
Corey Metzger (25)	Section 1 (7-12)
Jon Cohen (23)	Section 2
Tina Brueckner (26)	Section 3
Patrick Marks (26)	Section 4
Kevin Marple (24)	Section 5
Doug Reindl (25)	Section 6
Satheesh Kulankara (24)	Section 7
Charles Henck (23)	Section 8 (tbd)
Birol Kilkis (26)	Section 8 (tbd)
Brad Cochran (24)	Section 9
David Meredith (25)	Section 10
Vikrant Aute (26)	Section MTG (tbd)
Dan Dettmers (25)	Section MTG (tbd)
Larry Smith	Consultant (ex-chair)

3. Mentor Assignments:
   - Jon Cohen mentor to Tina Brueckner
   - Kevin Marple mentor to Patrick Marks
   - Charles Henck to Mentor Birol Kilkis
   - Satheesh Kulankara to mentor Vikrant Aute

Y. **Next Meeting**
Messmer planned on monthly interim meetings. The ASHRAE Winter Meeting will be held in Atlanta and TAC will meet February 4th & 8th, 2023.

Z. **Adjournment**
The TAC meeting adjourned at approximately 10 AM EDT.

Shaping Tomorrow's
Built Environment Today

Functional Group (FG) MANUAL OF PROCEDURES (MOP)

For ASHRAE Technical Committees (TCs), Task Groups (TGs), and Technical Resource Groups (TRGs)

Refer to the separate MOP for Multidisciplinary Task Groups (MTGs)

Approved 20160625
Revised 20170128
Revised 20181019
Revised 20190206
Revised 20200625
Revised 20210727
Revised 20210826
Revised 20220301
Revised 20220625

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Foreword

ASHRAE Technical Committees (FG) report to the Technical Activities Committee (TAC).

This Manual of Procedures (MOP) describes the methods and procedures by which the committees accomplish the duties and responsibilities assigned.

Other relevant Society documents are included by reference with a hyperlink when available.

This Manual of Procedure supplements but does not supersede the governing documents of ASHRAE such as the Certificate of Consolidation, Society Bylaws, Rules of the Board, and also higher-level Manuals of Procedures for TAC and Technology Council. Reference the ASHRAE website if hyperlinks are not provided.

Revision History

1. June 25, 2016 – Initial Release
2. January 28, 2017 – Spanish version created
3. October 19, 2018 – Revised to remove all references to Technical Bulletins and updated the Standards and Guidelines section for better clarity and agreement with PASA.
4. December 2018 Draft – Proposed addition of Section 7.4 Communications between TC/TG/MTG/TRG and other organizations.
5. June 27, 2020 – Proposed changes to 5.7.1 and 5.7.2 and made editorial changes throughout
6. July 27, 2021 - Add section 3.2.4.b on TC voting members with fiduciary duty to external organizations, and 7, 7.1, 7.1.5, and 7.4 on Contacts and Communications between ASHRAE, liaisons, TC and organizations. outside ASHRAE.
7. August 26, 2021 - Changes to 1.4.2.1 and 1.4.2.2 adding guidance on functional group balance and TAC approval.
8. March 1, 2022 Changes to 1.4.2.1 and 1.4.2.2 adding guidance on functional group balance and TAC approval.
9. **July 1, 2022 – major revisions to the TC MOP and separates the Multidisciplinary Task Groups (MTG) into a separate MOP document.**
    a. **Requires balance for voting membership and known financial interests in other entities (previously passed 8/26/21 and modified 3/1/22)**
    b. **Separates all references to Multidisciplinary Task Groups (MTGs) which will be covered in a separate revised document**
    c. **Requires that the Chair, Vice-Chair, and all voting members are also members of ASHRAE**
    d. **Recommendation to conduct virtual meetings between the Annual and Winter meetings**

ACRONYMS:

BOD	Board of Directors
CEC	Conferences and Expositions Committee
CTTC	Chapter Technology Transfer Committee
DOT	Director of Technology
FAQ	Frequently Asked Question
MORTS	Manager of Research and Technical Services
MOS	Manager of Standards
PASA	Procedures for ASHRAE Standards Actions
PDC	Professional Development Committee
PES	Proposal Evaluation Subcommittee
RPM	Remote Participants in Meeting
PMS	Project Monitoring Subcommittee
PUB	Publication Committee
StdC	Standards Committee
RAC	Research Activities Committee
ROB	Rule of Board
RTAR	Research Topic Acceptance Request
TAC	Technical Activities Committee
TC	Technical Committee
TG	Task Group
TRG	Technical Resource Group
TRP	Tentative Research Project
WS	Work Statement

Contents

Authority Documents as they apply to the FG MOP

Commentary:

The Authority Documents have been placed in the front of this Manual of Procedures, versus in an Appendix, so that a casual reader will be exposed to these most important documents.

Certificate of Consolidation

Commentary:

On January 16, 1959, the American Society of Heating and Air-Conditioning Engineers, Inc. and The American Society of Refrigeration Engineers merged. The purpose of the consolidated corporation was stated in ten (10) guidelines (Certificate Of Consolidation | ashrae.org). Only the first tenant is presented for brevity.

(a) To advance the arts and sciences of heating, refrigeration, and air conditioning and ventilation, and the allied arts and sciences, for the benefit of the general public.

ASHRAE By-Laws (https://www.ashrae.org/file%20library/about/governance/ashrae-bylaws---july-2021.pdf)

Commentary:

Section 7.8: Technical Activities Committee. This standing committee, the members of which are elected individually by the Board of Directors, shall plan for and have charge of the activities of the technical committees, task groups, and technical resource groups appointed to **further the advancement of the arts and sciences of heating, refrigerating, air conditioning, ventilating, and the allied arts and sciences for the public benefit.** Subject to the procedures prescribed by the Board of Directors, the Technical Activities Committee shall approve the formation of technical committees, task groups and technical resource groups as necessary to carry out the objectives of the committee. The committee shall also determine the scope of activities of each of these technical committees, task groups and technical resource groups.

ASHRAE Code of Ethics (https://www.ashrae.org/about/governance/code-of-ethics)

Commentary:

This is stated in the Rules of the Board (ROB) section 1.140 CODE OF ETHICS

This is a unique attribute for an organization that does not require paid member to participate or any professional accreditation such as a Professional Engineers License. There are eight (8) requirements to follow, however, for the purpose of the FG MOP item

E states: **"We shall avoid real or perceived conflicts of interest whenever possible, and disclose them to affected parties when they do exist."**

ASHRAE Discrimination and Harassment Policy

(https://www.ashrae.org/about/governance/ashrae-discrimination-and-harassment-policy)

Rules of the Board (https://www.ashrae.org/about/governance/rules-of-the-board)

Commentary:

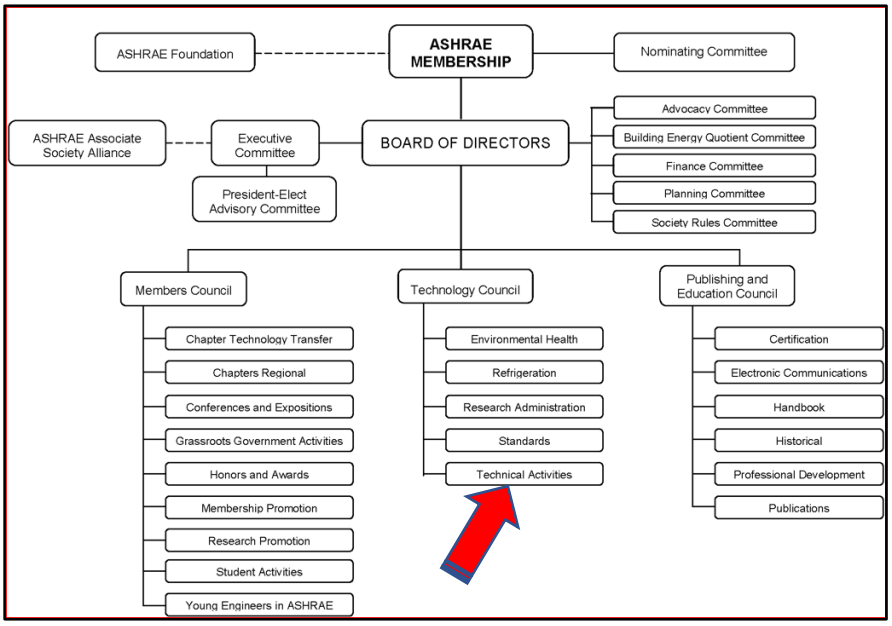
2.428.004 STRATEGIC PLAN: This committee **[TAC is responsible for assisting in the development of the Strategic Plan with the input of all the TCs]** shall develop procedures for recommending updates to the strategic plan on a continuous basis. As a minimum the committee shall submit a repost to the council prior to the Annual Meeting. The report includes the current status of each activity which support the fulfillment of the committee's assignments under the strategic plan. The committee shall report to the council all recommendations for changes to the strategic plan as provided by the committee's constituents prior to the Annual Meeting.

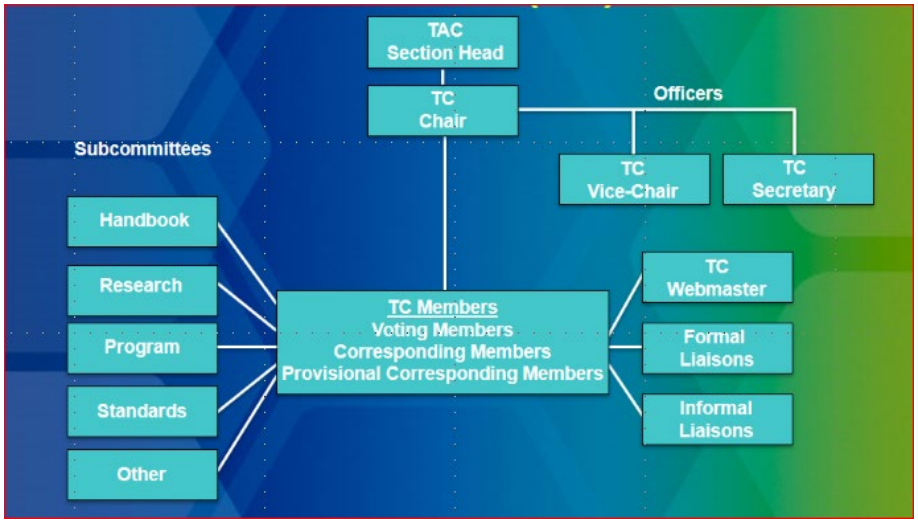
Technical Activities Committee (TAC) Manual of Procedures (MOP)

(https://www.ashrae.org/file%20library/communities/committees/standing%20committees/technical%20activities%20committee/tac-mop---2.5.2020.docx)

Organizational Chart

Commentary: Here is where you fit into the ASHRAE organizational structure reporting to the Technical Activities Committee (TAC) through your Section Head.





1. General

1.1. The Technical Activities Committee (TAC) shall authorize and administer the formation of Technical Committees (TCs), Task Groups (TGs), and Technical Resource Groups (TRGs), hereinafter referred to as Functional Groups (FGs).

Commentary:

The Technical Activities Committee (TAC) is considering a change to the Rules of the Board to disband TGs and TRGs and require them to: disband, merge with another FG, or transition to a new FG or MTG. The rationale is to better align the FGs with the ASHRAE Strategic Plan, re-organization efforts, and the emergence of virtual meetings.

Rules of the Board Section 2.428.001.2 This committee [TAC] shall coordinate the technical activities of the Society including appointment, development and oversight of the Technical Committees, Task Groups, Multidisciplinary Task Groups, and Technical Resource Groups.

1.2. These FGs shall be assigned to Sections created by TAC of topics of relevance to ASHRAE's mission and vision with the assignment of a Section Head for each Section.

1.3. A New FG may be proposed to TAC using the procedure found in Appendix A.

1.4. Purpose

1.4.1. **A TG is formed** when a field of interest is not covered in the scopes of existing TCs or when the field of interest encompasses the interests of more than one TC within the same Section. As required, TG functions may include Handbook Content Development, Program Development, Development of Publications, Research, and Standards Support. Should TGs continue to exist after two years and is of relevance to industry, TAC may choose to evolve the TG into a TC.

1.4.2. **A TC** has a defined scope of activity which is constituted to provide the Society with technical expertise on subjects within that scope of activity. TC functions may include Handbook Content Development, Program Development, Development of Publications, Research and Standards Support.

1.4.3. **A TRG is formed** when ASHRAE or its members have identified a special purpose need of the Society or the industry as a whole and plans to address the need on a specific timeline. The principal activities of the group are generally limited to the preparation, review, or revision of technical material. Such materials may include Handbook Development, Program Development, Development of Publications Standards Support.

1.5. Scope

1.5.1. Each FG shall be responsible for monitoring their title and scope and suggesting changes to be approved by TAC.

1.5.2. Approved Scopes shall be posted on the FGs as well as the ASHRAE website

1.6. FG Organization

1.6.1. Each FG shall have a Chair and Vice Chair. A Secretary, webmaster, and membership subcommittee chair is also recommended.

1.6.2. FG Voting Membership shall be comprised of individuals who

1.6.2.1. In the opinion of the Chair, have recognized proficiency in the field of interest or have the expressed desire to gain proficiency in that field.

1.6.2.2. Represent a stakeholder interest category of the industry such as users,

contractors, product manufacturers, academics, consulting engineers, government agencies, independent sales representatives, trade organizations and research organizations. The Chair shall develop a list of relevant stakeholder interest categories for approval in accordance with the below provisions and shall maintain a balance of Members in these stakeholder interest categories. No single stakeholder interest category shall constitute a majority of the Voting Members of an FG. **TAC Chair approval is required when achieving such balance is not possible**.

1.6.2.3. FG composition shall be approved by TAC based on the group's defined title, purpose, and scope.

1.7. Review

1.7.1. Once a year, preferably at, or prior to, each Winter Society meeting, the FG Chair and 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 [

Commentary:

Also refer to 2.1.6.3.7 for additional action required for annual and semiannual review

a) Continue as a FG
b) Merge with a FG and submit a revised scope for the merged FG
c) Dissolve the FG.
d) If an FG votes to disband, it must establish whether any current responsibilities should be continued and, if so, recommend existing FG(s) to assume the responsibilities and obtain those FG written concurrence.

1.8. Reimbursement

1.8.1. FG members are expected to pay their own expenses to attend meetings, unless agreed to by ASHRAE under special arrangements.

2. Leadership

2.1. Chair

2.1.1. Appointed by the TAC Chair after consultation with the Section Head.

2.1.2. Shall preferably have served at least one term as Vice Chair and/or Secretary.

2.1.3. May be appointed for one or more one-year terms, but not normally to exceed two consecutive terms.

2.1.4. An exception for additional consecutive terms may be granted by the TAC Chair provided the FG makes a written request with justification and that request is approved by the Section Head. Such an exception will only be approved if it serves the best interest of the Society.

2.1.5. Responsibilities:

2.1.5.1. Agenda - At least 30 days in advance of any official meeting, prepare an agenda of the business to be conducted at the meeting and distribute a copy to those receiving a notice of the meeting

2.1.5.2. Minutes

2.1.5.2.1. Ensure that draft minutes are distributed to all FG Members, guests, Section Head and MORTS no later than 60 days following any meeting. Minutes may be physical or electronic, and must be distributed whether there is a quorum or not and may be distributed by mail, email, electronic means or posting the minutes to the appropriate website or webpage and notifying all applicable parties.

2.1.5.2.2. All draft minutes distributed shall include the following notice on the bottom of

the cover page**: "*These draft minutes have not been approved and are not the official, approved record until approved by this committee.*"**

2.1.5.3. FG Membership
2.1.5.3.1. Recommend members according to Appendix B.
2.1.5.3.2. Develop and maintain list of prospective FG members who have indicated willingness to serve if appointed.
2.1.5.3.3. Attend Section Meetings and training sessions sponsored by TAC.
2.1.5.3.4. Assign duties to Vice Chair and members as appropriate.
2.1.5.3.5. Appointments of Chair and members of Subcommittees. (Examples: Handbook, Research, Program).
2.1.5.3.6. Serve as the first contact for the FG with an ASHRAE email alias provided by the MORTS.
2.1.5.3.7. Submit a semiannual Activities Report and annual FG Evaluation
2.1.5.3.7.1. Prepare and submit to the Section Head electronically by 9:00 pm on Tuesday at the Annual and Winter Society meetings. FG Evaluation is only submitted at the Winter Society meeting.
2.1.5.3.7.2. Use spreadsheet distributed by Section Head prior to meeting.
2.1.5.3.8. Additional Responsibilities as required
2.1.5.3.8.1. Each year prepare and transmit a list of members that can normally serve as technical reviewers grouped by technical specialty.
2.1.5.3.8.2. Recommend names for Awards as instructed by TAC (Appendix C).
2.1.5.4. Develop FG objectives (Section 5.1) as appropriate.

2.2. Vice Chair
2.2.1. Is appointed by the TAC Chair from nominations made by the current FG Chair and endorsed by the Section Head.
2.2.2. Responsibilities:
2.2.2.1. In the absence of the Chair, assume the role of Chair at any scheduled or called meeting of the FG.
2.2.2.2. Tie votes or quorum problems are handled by letter or electronic ballot votes after the meeting (Section 6).
2.2.2.3. At least 30 days prior to the Annual and Winter Society meetings prepare and distribute a draft list of reminders about upcoming activity deadlines and deliverables to FG members.
2.2.2.4. Attend Section Meetings and training sessions sponsored by TAC
2.2.2.5. Develop FG objectives (Section 5.1) as appropriate.

2.3. Secretary
2.3.1. Is appointed by the FG Chair
2.3.2. Maintains FG records and communications as directed by the Chair.

2.4. Subcommittee Chairs
2.4.1. Are appointed by the FG Chair
2.4.2. Attend training and information meetings sponsored by related standing committees (Handbook, CEC for Programs, Research, and Standards) at the ASHRAE Winter and Annual meetings

3. Members and Membership Categories

3.1. General

3.1.1. FG members are appointed as individuals and NOT as representatives of any group, organization, or employer.

3.1.2. Members shall be willing to attend meetings of the FG at no expense to the Society unless specific other arrangements are made in the case of representative from organizations outside of ASHRAE.

3.1.3. Members shall be appointed by the TAC Chair from nominations made by the current FG Chair and endorsed by the Section Head. See Appendix B for the procedure.

3.1.4. Each Voting Member, Corresponding Member and Provisional Corresponding Member may be assigned to a Subcommittee of the FG and shall perform the duties that may be assigned by the Subcommittee Chair.

3.1.5. Prospective members shall complete an online biographical record (available at http://www.ashrae.org/).

3.1.6. An FG shall consist of approximately 12 Voting Members, with a minimum of six (6) and a maximum of eighteen (18). If the FG 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.

3.2. Voting Members

3.2.1. <u>Effective July 1, 2023, the Chair, Vice-Chair, and each voting member must be an ASHRAE member in good standing. A waiver may be granted by the Section Head.</u>

3.2.2. Have full voting privileges.

3.2.3. Shall be appointed annually for not more than four consecutive one-year terms, regardless of other positions held in the FG.

3.2.4. An exception for additional consecutive terms may be granted by the TAC Chair if the FG 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.

3.2.5. Only one person from any employer, organization, university, or specific government agency may serve as a Voting Member on the same FG at one time.

3.2.5.1. 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.

3.2.5.2. 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 FG, 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 who does not have a fiduciary duty to that organization.

3.2.5.3. A person who is employed by a company that has any known financial interest in another entity (e.g., a non-controlling minority financial interest) is considered to be an employee of that entity for the purposes of determining voting status on the FG. This provision does not extend to an employee of a company that represents another entity's products or services without a financial interest in that entity.

3.2.6. 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 FG.

3.2.7. While there may be circumstances when a Voting Member may be appointed without

previously having served on the FG, preference should be given to those who have served the prior year as a corresponding member of that FG.

3.2.8. Voting Members have two subcategories

3.2.8.1. Voting Member - Quorum (VM)

3.2.8.1.1. Regular members are always counts towards the determination of quorum for a FG meeting.

3.2.8.1.2. Includes all Voting Members of the FG other than those in the Voting Member - Non-Quorum in Section 3.2.8.2.2.

3.2.8.2. Voting Member - Non-Quorum (VMNQ) is a special category for members who are not able to attend every meeting due to travel costs and other constraints.

3.2.8.2.1. An FG can have no more than two non-quorum voting members.

3.2.8.2.2. A Voting Member-Non-Quorum has identical responsibilities, privileges, and constraints as a Voting Member-quorum with two exceptions:

3.2.8.2.2.1. A Voting Member-non-quorum is not counted against the maximum number of Voting Members cited in Section 3.1.6.

3.2.8.2.2.2. The absence of a Voting Member-non-quorum does not affect the determination of quorum.

3.3. Corresponding Members

3.3.1. Nominated by the FG Chair.

3.3.2. No restrictions on the number or affiliations of nominees.

3.3.3. Expected to participate in FG activities and attend meetings when possible.

3.3.4. May not vote on FG business.

3.3.5. May serve on and chair FG subcommittees, including Proposal Evaluation and Project Monitoring Subcommittees.

3.3.6. May vote at the subcommittee level subject to voting restrictions in Section 5.

3.3.7. May serve as Vice Chair or Secretary of an FG as approved by the Chair and if they attend meetings regularly.

3.4. Provisional Corresponding Members

3.4.1. Temporary additions to the roster made by ASHRAE staff between roster update cycles, usually at the request of someone wanting to participate in the FGs technical activities.

3.4.2. The FG Chair shall decide whether to add Provisional Corresponding Members to the roster as one of the other member categories.

3.4.3. If the Chair takes no action on a Provisional Corresponding Member, they are automatically dropped from the roster after two years.

3.4.4. For the purposes of FG assignments and other work “Provisional” status does not limit an individual’s active involvement.

3.4.5. Have the same voting privileges as a regular Corresponding Member (Section 3.3).

3.5. Ex Officio. The following are all ex-officio members of all FGs, who may participate in discussions of the FG, but do not have voting rights.

3.5.1. Chair of TAC

3.5.2. Section Head

3.5.3. Manager of Research and Technical Services (MORTS)

3.5.4. An ASHRAE standing FG member with duties related to the FG (eg. Conferences and Expositions Committee), selected by the Chair of the standing FG.

4. Liaisons External to ASHRAE

Commentary:

This entire section is currently under review by TAC to align with the ASHRAE Strategic Plan, re-organization efforts, and the emergence of virtual meetings.

4.1. Official

4.1.1. Official Liaison appointments to represent the Society in a specific technical area (except standards– see Section 4.1.5) shall be made by the TAC Chair with the advice of the FG at interest, with the advice of the Director of Technology, and with the approval of the Coordinating Officer.

4.1.2. 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.

4.1.3. Instructions for voting as a TAC Intersociety Liaison shall be given to them by TAC and their FG 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 FG involved to instruct the TAC Intersociety Liaison as to how to vote to accomplish this.

4.1.4. Procedures:

4.1.4.1. FGs shall cooperate with the TAC Liaison Coordinator to make him/her aware of other organization activities, which are of interest to ASHRAE. When the FG believes it is in the best interest of ASHRAE to liaise with another organization, the FG shall recommend to the TAC Liaison Coordinator, that such an official liaison be established

4.1.4.2. In cooperation with the TAC Liaison Coordinator, the FG Chair shall recommend a liaison to another organization from the membership to the TAC chair for consideration

4.1.4.3. The FG shall identify in writing the organization and the FG 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.

4.1.4.4. Changes in participants may be made by the FG Chair in consultation with the TAC Liaison Coordinator and approval of TAC chair and others noted above

4.1.5. 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). FG 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.

4.2. Unofficial Liaisons

4.2.1. May be appointed by a FG 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.

4.2.2. Duties and Responsibilities of Unofficial Liaisons

4.2.2.1. The designated participant is an individual member of the FG and, in this capacity,

expresses individual opinion, not that of ASHRAE, TAC or the FG.

4.2.2.2. The Liaison shall advise the organization, in writing, as follows:

"I have been appointed as the ASHRAE FG 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."

4.3. Liaison Expense Reimbursement

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

4.4. Communications between an FG and other organizations, individuals, or companies.

4.4.1. Contacts between an FG 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 FG is speaking on behalf of that FG 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 FG only and does not represent an ASHRAE position.*** ASHRAE letterhead shall not be used for such communications as it may imply Society endorsement.

4.4.2. Communications between an FG and other organizations, individuals, or companies outside of ASHRAE as stated in Section 4.4.1 above require approval by a majority vote of the current Voting Members of the FG.

4.4.3. If individuals of the FG communicate directly with outside organizations, individuals, or companies not on behalf of the FG 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 FG.*** This provision includes, but is not limited to, communications using ASHRAE Basecamp.

4.4.4. If one or more FGs 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.

5. Requirements

5.1. Objectives

5.1.1. Objectives should be within the FG scope and derived from:

5.1.1.1. The assignments and requests referred to it by authorized FGs and individuals

5.1.1.2. The needs of the Society, as made known to them by other FGs, officers of the Society, chapters, the current society strategic plan, and members in general

5.1.1.3. Investigations and deliberations of the Functional Group itself.

5.1.2. Each objective should provide the "what", "by whom", and "by when". The "why" is the most important and that needs a clear and energizing vision statement. (For guidance turn to the "ASHRAE Leadership Development Auto-Tutorials" Technical Activities Committee (ashrae.org))

5.2. Meetings

5.2.1. FG should hold meetings at the Society's Annual and Winter meetings each year, unless granted an exception by their Section Head and concurring with virtual meetings.

5.2.1.1. FG meetings held during Society meetings will usually be scheduled in the same time slot as the previous Society meeting if one was scheduled for the prior meeting.

5.2.1.2. Subcommittee meetings will not be automatically scheduled, and meeting room assignments must be requested every meeting.

5.2.2. Meeting room assignments except as noted in 5.2.1 must be requested of the ASHRAE Meetings Department at least 90 days in advance of that meeting.

5.2.3. Attendance at FGs and subcommittee meetings, except as allowed for by executive session procedures, is open, on a space-available basis, for observation by directly and materially interested persons who are not members of the FG.

5.2.3.1. Executive session may be invoked after a request to do so from an FG (or subcommittee) member is made in an open session and approved by a majority vote.

5.2.3.2. Any member or guest who is the principal investigator, or whose institution, organization, or company is the research agency for a proposed project shall be absent during the final deliberations and voting on that proposal or on other proposals which are in direct competition.

5.2.4. Interim meetings may be held outside of the two Society meetings at the discretion of the Chair. Meetings can take place via conference call and/or the web with assistance from ASHRAE staff. **It is strongly encouraged to hold multiple interim virtual meetings between the Annual and Winter meetings.**

5.2.4.1. Subcommittees are encouraged to have interim virtual meetings as needed subject to the same rules and constraints.

5.2.5. Notice of meetings

5.2.5.1. FG Chair must advise the full FG roster and the MORTS of all FG and subcommittee meetings, web meetings or teleconferences that take place between Society Meetings.

5.2.5.2. The MORTS must be notified at least 30 days before in-person meetings and 14 days before web meetings and teleconferences to permit the MORTS time to notify interested persons who may want to participate.

5.2.5.3. Information provided should include the date, time, location, principal purpose of the meeting, and the person to contact for further information.

5.2.6. If it is not possible to schedule meetings during Society meetings, the Chair is permitted to call meetings, with the permission of the Section Head, at other times and places.

5.2.6.1. Any expense for meeting rooms provided at times other than Society meetings must be borne by the members unless authorized by TAC or the Director of Technology (DOT).

5.2.6.2. FGs that make a practice of holding their meetings at times other than Society meetings shall provide representation during the Society meetings at functions as requested by the Section Head.

5.2.7. Research projects consideration, either solicited or unsolicited, at regular FG meetings.

5.2.7.1. Each proposer present should be allowed to speak on behalf of their proposal if they desire.

5.2.7.2. The time allotted for such presentations shall be at the discretion of the Chair

5.2.8. Minutes of official meetings

5.2.8.1. Must include votes and results of all motions in areas of responsibility.

5.2.8.2. Negative voters shall be given a chance to explain their negative votes and have them included in the minutes.

5.2.8.3. Generally, do not include detailed discussion of topics but include decisions and action items

5.2.8.4. Subcommittee minutes and reports may be included in the main FG minutes or may be separate at the discretion of the FG Secretary.

5.3. Technical Responsibility
- 5.3.1. To advise, assist, and carry out assignments from TAC on technical matters and emerging technologies related to its scope.
- 5.3.2. Respond to requests for assistance with technical matters, review technical papers, develop information, or prepare technical material or special publications by any of the following:
  - 5.3.2.1. Research Administration Committee (RAC)
  - 5.3.2.2. Handbook Committee
  - 5.3.2.3. Standards Committee (StdC)
  - 5.3.2.4. Conferences and Expositions Committee (CEC)
  - 5.3.2.5. Chapter Technology Transfer Committee (CTTC)
  - 5.3.2.6. Publications Committee (PUB)
  - 5.3.2.7. Director of Technology (DOT)
  - 5.3.2.8. Manager of Research and Technical Services (MORTS)
  - 5.3.2.9. Manager of Standards (MOS)
  - 5.3.2.10. Board of Directors' Executive Committee
- 5.3.3. Technical inquiries shall be handled expeditiously

5.4. Handbook
- 5.4.1. Each FG is charged with the responsibility of reviewing Handbook chapters within its field of expertise and interest and with making appropriate recommendations to the Handbook Committee and the responsible FG for a specific chapter(s).
- 5.4.2. The FGs are responsible for the technical content of these chapters, but review and revision must be coordinated with the publication schedule established by the Handbook Committee. The most authoritative reference for FG handbook responsibilities and procedures is the Handbook Author's and Reviser's Guide.

5.5. Conferences and technical meetings
- 5.5.1. FGs shall encourage the preparation and submission of technical materials for presentation at meetings.
- 5.5.2. FGs may propose to the Conferences and Expositions Committee suggestions for
  - 5.5.2.1. Program tracks
  - 5.5.2.2. Specialty conferences
  - 5.5.2.3. Subjects for technical and conference papers, seminars, forums and other programs
- 5.5.3. If requested, shall assist in the development of such items

5.6. Standards and Guidelines
- 5.6.1. FGs may request the development of and support the need for a particular Standard or Guideline through the Standards Committee.
- 5.6.2. Cognizant FGs, or FG with relevant expertise in the subject matter, may recommend for a new Standard or Guideline potential:
  - 5.6.2.1. Project Committee Chair.
  - 5.6.2.2. Project Committee members.
  - 5.6.2.3. Non-voting FG liaison.
- 5.6.3. During Advisory or Publication Public Review of a Standard or Guideline, a FG may submit a review comment that it has developed and endorses.
- 5.6.4. FG may submit a change proposal to recommend changes to a Standard or Guideline on continuous maintenance

5.6.5. The consensus body solely responsible for the technical content of a Standard or Guideline is the Standard or Guideline Project Committee. A FG is not empowered to initiate a draft of a Standard or Guideline for the Society nor does it have approval rights over the work done by Standard or Guideline Project Committees

5.6.6. FGs shall review and recommend Standards or Guidelines related actions stated in Section 6.2 when requested by the Manager of Standards. All other FG actions that are related to Standards and Guidelines, as described in Sections 5.6.3 through Section 5.6.7 shall be approved by the FG using a simple majority vote, as stated in Section 6.4.

5.6.7. The most authoritative reference for FG Standard and Guideline responsibilities and procedures is the Procedures for ASHRAE Standards Actions (PASA).

5.7. Research

5.7.1. Responsibility

5.7.1.1. FGs shall, in general, be responsible for research arising or related to their respective areas of interest, including emerging technologies and shall develop and recommend to RAC specific topics for research within its scope that are needed to provide new information or to improve or expand existing information, except, TRGs shall report the need for research to the RAC Liaison assigned to their section.

5.7.2. Approval of Project Evaluation Subcommittee (PES) and Project Monitoring Subcommittee (PMS) as recommended by the Chair of the FG and approved by the Section Research Liaison

5.7.3. The FG must approve the project's final report for publication by a 2/3 affirmative vote.

5.7.3.1. Results of vote must be included in minutes for that meeting

5.7.4. The most authoritative reference for FG research responsibilities and procedures is the RAC Research Manual found on the ASHRAE Website under the "Research" (See Appendix D for procedures overview and deadlines).

5.8. Chapter Technical Programs and Publications

5.8.1. Cooperate with local Society Chapters in planning and developing chapter technical programs, and in developing Chapter Technical Publications when requested to do so by the Section Head.

5.9. Written or Otherwise Published Material

5.9.1. All FGs are responsible for all written material that results from activities carried out under their authority

5.9.2. Review and evaluate submitted technical and conference papers in a timely manner upon request

5.9.3. When such material is distributed to individuals or FGs, they shall be informed that the material is:

5.9.3.1. The property of ASHRAE

5.9.3.2. Not to be reproduced or otherwise used prior to publication

5.9.3.3. To be returned upon request

5.9.4. Recommend to liaison (copy to Section Head) special publications where material is unsuited for Regular Society publications.

Commentary:

Section 5.9.5 and Appendix E has been deleted as no such requirements can be found on the ASHRAE website

~~5.9.5. Include the statement in Appendix E on all draft documents including special~~

~~publications, position documents, handbook chapters, technical papers, and research reports~~

5.9.6. A final copyright notice will be added to any documents offered for sale by the Publications Department.

5.9.7. Once a document has been published, the FG must destroy/delete any draft review versions.

5.10. Website

5.10.1. FGs shall maintain current information about its activities on its website and is responsible for the content of all material on its website

5.10.2. FGs must ensure that all materials posted on their website meet the policy outlined in the ASHRAE document titled "ASHRAE Policy and Procedure for Format, Activity, and Content of Web Sites for ASHRAE Groups" that is posted on the Electronic Communications Committee website (https://www.ashrae.org/society-groups/committees/electronic-communications-committee). This policy covers all material that is posted on the FG website including presentations, papers and documents produced by the FG. This policy includes the directive: ***"Statements and presentations may not appear on web sites that state, purport, or imply that they present ASHRAE positions, policy, or opinions".***

5.10.3. Posting presentations

5.10.3.1. Seminar presentations that have previously been presented at ASHRAE meetings must be approved for website posting by a simple majority vote of the sponsoring FGs

5.10.3.2. Seminar presentations shall not be posted until the FG Chair receives written/electronic permission from the presentation author.

5.11. Frequently Asked Questions (FAQ)

5.11.1. As requested, members of a FG shall compose answers to, or review FAQ assigned to their FG.

5.11.2. Each FAQ should be annually reviewed to ensure that references and technologies are current.

Commentary:

Section 5.12 and Appendix F has been deleted as no such requirements can be found on the ASHRAE website

~~5.12. Special Publications~~

~~5.12.1. Broad based publications peer review is described in Appendix F.~~

Commentary:

Section 5.13 and Appendix G has been deleted as no such requirements can be found on the ASHRAE website

~~5.13. Professional Development Course~~

~~5.13.1. FGs may contribute to the professional development activities of the Society through a FG Professional Development Committee (PDC) Liaison appointed by the FG Chair~~

~~5.13.2. The duties of a PDC Liaison are described in Appendix G~~

6. Voting

6.1. Quorum

6.1.1. Physical meetings and Remote Participants in Meeting (RPM)

6.1.1.1. When a Voting Member-Non-Quorum is absent, their position is not included in the

number of voting members when determining quorum.

6.1.1.2. A member must be actually or personally present in a physical meeting or participating in an RPM setup by the FG through ASHRAE for that meeting to vote or count towards quorum.

6.1.1.3. Quorum to conduct business at meetings is established when the number of voting members present is four (4) or exceeds 1/2 of the number of total voting members of the FG, whichever is larger, subject to the section 6.1.1.1 exception.

6.1.2. Letter or Electronic Ballots

6.1.2.1. The number of voting members (quorum and non-quorum) responding must exceed one-half of the total number of voting members (quorum and non-quorum) and approvals shall be as described in the following sections.

6.1.2.2. Shall be distributed by the FG chair to all voting members and shall specify the response deadline, which must allow a reasonable time period for responses (1 week minimum, 2 weeks preferred).

6.2. Approval of Work Statements, Research Proposals, Final Reports, Handbook Chapters, Special Publications, and recommendations to the Standards Committee concerning the need to initiate reaffirmation, revision (based on updated references or adding a second system of units to a standard, thereby making the standard useable in either SI or IP units), or withdrawal of an existing Standard or Guideline for which it is the cognizant FG, or to request the development of a new Standard or Guideline:

6.2.1. The number of affirmative votes required for approval is four (4) or at least 2/3 of the voting members expressing a preference, whichever is larger (For or against the motion – abstentions or non-responses don't count)

6.2.2. The motion and results of the vote shall be recorded in the minutes. If electronic ballot, results shall be reported and recorded at the next meeting of the FG.

6.2.3. The reasons for negative votes and abstentions on these types of motions shall be recorded and transmitted along with the motion to the next approving body (RAC, StdC) as part of the background information.

6.3. Parliamentary procedure motions:

6.3.1. The number of affirmative votes required for approval shall be based on the voting members expressing a preference (For or against the motion – abstentions don't count) and the Parliamentary Motion Guide (Appendix H).

6.4. Other motions

6.4.1. The number of affirmative votes required for approval is three (3) or more than 1/2 of the voting members expressing a preference, whichever is larger (For or against the motion – Abstentions or non-responses don't count.)

6.4.2. The motion and results of the vote shall be recorded in the minutes. If electronic ballot, results shall be reported and recorded at the next meeting of the FG.

6.5. Conflict of interest

6.5.1. In the event an FG is unable to meet voting requirements due to conflicts of interest, the issue shall be referred to TAC and/or another appropriate standing committee that has a direct interest in the matter (RAC, Handbook, Standards) for action.

6.6. Proxy votes

6.6.1. Absent voting members are not permitted to vote by proxy.

6.7. Negative Letter/electronic ballot FG and Subcommittee Votes

6.7.1. Members casting negative votes shall be requested to comment on reasons for their negative votes and if no reasons are provided the ballot is final.

6.7.2. If the ballot passes with one or more negative votes with comments:

6.7.2.1. The results shall be held in abeyance until comments, Chair's rebuttal (if any), and letter ballot results are transmitted to all eligible voters.

6.7.2.2. Voters are given an opportunity, not to exceed two weeks, to change their votes or to vote for the first time. When this opportunity to vote has expired, the results shall be final.

6.7.2.3. The final letter ballot results and all negative vote comments received shall be provided to the voting members and included when submitting for subsequent approval steps.

6.8. Subcommittee vote

6.8.1. Any person can serve at the subcommittee level, but only one person from any employer, organization, university, or specific government agency is eligible to vote on the same FG subcommittee at one time.

6.9. Guests

6.9.1. Guests may participate in the discussion at the discretion of the Chair, but none shall have voting rights.

7. Contacts Outside the Society between ASHRAE and other organizations, individuals, and companies

Commentary:

This entire section is currently under review by TAC to align with the ASHRAE Strategic Plan, re-organization efforts, and the emergence of virtual meetings.

7.1. Official

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 FG 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 FG 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:

7.1.4.1. FGs shall cooperate with the TAC Liaison Coordinator to make him/her aware of other organization activities, which are of interest to ASHRAE. When the FG believes it is in the best interest of ASHRAE to liaise with another organization, the FG shall

recommend to the TAC Liaison Coordinator, that such an official liaison be established.

7.1.4.2. In cooperation with the TAC Liaison Coordinator, the FG Chair shall recommend a liaison to another organization from the membership to the TAC chair for consideration.

7.1.4.3. The FG shall identify in writing the organization and the FG 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.

7.1.4.4. Changes in participants may be made by the FG 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). FG 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.

7.2. Unofficial Liaison appointments

7.2.1. May be made by a FG, 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

7.2.2.1. The designated participant is an individual member of the FG and, in this capacity, expresses individual opinion, not that of ASHRAE, TAC or the FG.

7.2.2.2. The Liaison shall advise the organization, in writing, as follows:

"I have been appointed as the ASHRAE FG 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 FG and other organizations, individuals, or companies.

7.4.1. Contacts between FG 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 FG is speaking on behalf of that FG 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 FG only and does not represent an ASHRAE position."*** ASHRAE letterhead shall not be used for such communications as it may imply Society endorsement.

7.4.2. Communications between FG 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 FG.

7.4.3. If individuals of the FG communicate directly with outside organizations, individuals, or companies not on behalf of the FG 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 FG.*"** This provision includes, but is not limited to, communications using ASHRAE Basecamp.

7.4.4. If one or more FG'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.**

Appendix A - Procedure for Proposing New Functional Group (FG)

1. Complete the FG Proposal Form. The electronic forms may be downloaded from https://www.ashrae.org/standards-research--technology/technical-committees/tc-forms-and-documents

2. Return completed forms to the Manager of Research and Technical Services (MORTS). (MORTS@ashrae.net) and copy TAC Chair (TACchair@ASHRAE.net)

Appendix B - Procedure for FG Membership Update Roster Update Workbook

Commentary:

It is strongly suggested that the FG Chair, along with the membership sub-committee chair, purge the roster on an annual basis for inactive members. Provisional corresponding members (PCM), if not upgraded by the Chair to a corresponding member will be automatically purged from the roster after 2-years. As of June 2022, the entire rostering process is under review and is being automated. Going forward there will be changes!

1. Roster Update Workbook
   - 1.1. At least three weeks prior to the start of the Society Winter Meeting, the Administrative Assistant for Research and Technical Services sends each TAC Section Head a Roster Update Workbook for each FG in their section. The Section Head distributes them to each FG Chair in the section.
   - 1.2. The Workbook contains information on all current members of the FG and leadership positions.
   - 1.3. The FG Chair reviews the Workbook, making changes and additions as required (See Section 2 below).
   - 1.4. The updated Roster Update Workbook must be emailed to the appropriate Section Head
     - 1.4.1. FG - no later than 9:00 pm on Tuesday of the Winter Meeting.
     - 1.4.2. An alternative submittal method may be used if approved by the Section Head in advance.
2. Roster Update Workbook Review and Update
   - 2.1. Instructions for updates and changes are included in the workbook. Please follow them and if you don't understand something, contact your Section Head for help.
   - 2.2. Add new members and liaisons in the designated area
     - 2.2.1. Provide the name of the person and
     - 2.2.2. Either the person's ASHRAE member number or complete address and telephone number
   - 2.3. Make changes and corrections to the current membership as required
     - 2.3.1. Officers Liaisons and subcommittee chairs
     - 2.3.2. Member voting status changes – mark the change as instructed
     - 2.3.3. Member deletions – mark the change as instructed, **do not delete** the name from the worksheet
   - 2.4. Approve the update by entering your name and date in the worksheet
3. Section Head Approval
   - 3.1. Review and approve the Roster Update Workbook or return it to the FG Chair for corrections
   - 3.2. After approval, send the Roster Update Workbook to the Administrative Assistant for Research and Technical Services no later than February 28.
4. Draft Roster for the next Society year

4.1. Staff creates the draft roster and sends a first draft to the Section Head.
4.2. Section Head reviews the draft roster against the input that was provided in the approved Roster Update Workbook.
4.2.1. If no changes are necessary, the Section Head approves the draft and informs staff
4.2.2. Corrections shall be sent to staff within two weeks.
4.2.3. Repeat until the Section Head has approved the draft roster.
4.3. Roster changes after the final roster has been approved shall be made using the Emergency Roster Change Form (https://www.ashrae.org/standards-research--technology/technical-committees/tc-forms-and-documents) and are subject to approval by the Section Head.

5. Final Roster for the next Society year
5.1. Staff prepares the final roster for each FG in PDF and MS-Excel format.
5.2. The Section Head reviews the final roster.
5.3. Staff posts the documents as appropriate and distributes them to each FG member prior to July 1.

6. Roster distribution outside FG
6.1. Complete Roster information shall not be posted on publicly accessible areas of FG websites subject to items 6.2 and 6.3.
6.2. For more than the following information to be included on the FG public website, the FG Chair shall solicit and receive approval in writing from the affected member(s):
6.2.1. Name
6.2.2. Position on FG
6.3. The FG Chair must approve the distribution of any other roster information to anyone who is not listed on the roster of the FG subject to the written permission of the affected member(s).

Appendix C - Awards

Commentary: This appendix is placed here for informative purposes. The FG Honors and Awards chairperson should actively nominate members to recognize their accomplishments and volunteer service to the Society.

THE RALPH G. NEVINS, JR. PHYSIOLOGY AND HUMAN ENVIRONMENT AWARD

1. The award shall be presented for significant accomplishment in the general area of man's response to the environment, which may include thermal, moisture, visual, acoustical, toxic, allergic, olfactory, vibrational, and microbiological effects on man's health, comfort, and well-being.
2. The award shall be made to a promising investigator, preferably less than 40 years of age, whose accomplishments are represented by significant papers published by ASHRAE or by Journals of an ASHRAE International Associate for the five-year period previous to the award.
3. The form of the award shall be a certificate and an honorarium of $300.00. The certificate shall be suitably inscribed with the awardee's name, the area of accomplishment, and the name of the award.
4. Recommendation for a receipt of the award shall be made by a Selection Subcommittee of TC 2.1, Physiology and Human Environment, or its successor committee, approved by TC 2.1 and forwarded to the Honors and Awards Committee for final approval during the ASHRAE Winter Meeting. Presentation of the award shall be made once each year at the Plenary Session of the ASHRAE Annual Meeting if a qualified candidate is identified.
5. Soliciting funds for the award is the responsibility of TC 2.1. Income shall be the source, without use of the principal, to fund the award including the honorarium. The amount may be adjusted from time to time by TC 2.1 with the administrative approval of the Honors and Awards Committee.

THE GEORGE B. HIGHTOWER AWARD

1. The purpose of the award is to recognize each year an individual for his/her excellence in volunteer service to the area of FG or MTG technical leadership and contribution, which includes all FGs and MTG activities except for research and standards. The award will serve to heighten general membership awareness of, and interest in, technical activities at the FG/MTG level.
2. Candidates for this award are nominated by a FG/MTG in which they have demonstrated exceptional service excluding research and standards activities. TAC and Technology Council members, and FG/MTG Chairs, are not eligible during the terms they serve on the respective committees. Past recipients of the award are not eligible.
3. Applications are due from FG/MTG Chairs to their Section Head by September 1 each year. Details and an application form can be found On the ASHRAE website under the Technical Committees page. https://www.ashrae.org/technical-resources/technical-committees/tc-forms-and-documents
4. The recipient will be selected at the fall TAC meeting and the award will be presented at the Winter Meeting.
5. A MTG will participate in the George B. Hightower award through one or more FGs that comprise the MTG.
6. ELIGIBILITY REQUIREMENTS
    a) Nominees must have earned a minimum of 10 points **during their career** on

FG/MTGs as defined to be eligible for theaward.

b) If eligible, the award is given **based only on the most recent four years of service** on FG/MTG's. This service must be detailed in the explanation for it to be considered and is the actual basis for receiving of the award.

THE SERVICE TO ASHRAE RESEARCH AWARD

1. The purpose of the award is to recognize each year an individual for his/her excellence in volunteer service to the area of Society research. The award will serve to heighten general membership awareness of, and interest in, research activities at the FG level.
2. Candidates for this award are nominated by a FG in which they have demonstrated exceptional service in the area of research. RAC members, FG Chairs, and researchers on the project in question are not eligible.
3. Applications are due from FG Chairs to their Research Liaison by September 30th each year. Additional details on the award and an application form can be found in the RAC MOP. https://www.ashrae.org/technical-resources/research/research-grants-awards
4. The recipient will be selected at the fall RAC meeting and the award will be presented at the Winter Meeting.

THE STANDARDS ACHIEVEMENT AWARD

1. The purpose of the award is to recognize excellence in volunteer service to the area of Standards. It will serve to heighten general membership awareness of, and interest in, standards activities.
2. The award is open to ASHRAE members who have demonstrated outstanding achievement in the ASHRAE standards development process. The nomination form can be found on the ASHRAE website at: https://www.ashrae.org/membership/honors-and- awards . Standards Committee and Technology Council members are ineligible for receipt of the Standards Achievement Award during the terms they serve on the respective committees.
3. Nominations are solicited during the first half of the Society year. The Standards Committee will select the recipient and notify the Honors and Awards Committee of its selection at the ASHRAE Winter Meeting.
4. A typical award application will include a letter of nomination outlining eligibility and a nomination form. Additional details on the award and an application form can be found in the Standards Committee MOP.

Appendix D - Overview of Research Procedures

Commentary: This appendix is deleted in its entirety and replace with a hyperlink (Research (ashrae.org)

Appendix E - Copyright for Draft Documents

Commentary: This appendix is deleted in its entirety.

Appendix F - Broad Topic Special Publications Peer Review Procedure

Commentary: This appendix is deleted in its entirety.

Appendix G - Duties of the FG Professional Development Committee (PDC) Liaison

Commentary:

This appendix is deleted in its entirety.

Appendix H - Parliamentary Motions Guide

Commentary:

This entire Appendix has been deleted and replace by hyperlink (https://www.ashrae.org//File%20Library/Communities/Committees/Standing%20Committees/Society%20Rules%20Committee/ASHRAE-Simplified-Rules-of-Order--Quick-Reference.pdf)

Appendix I - FG Cognizant Handbook Chapters

Commentary: For the latest updated list email MORTS@ashrae.net

FG	Chapter No	Volume	Title
01.01	1	Fundamentals	Psychrometrics
01.01	2	Fundamentals	Thermodynamics and Refrigeration Cycles (pt 1 of 2)
01.02	38	Fundamentals	Measurement and Instruments
01.03	3	Fundamentals	Fluid Flow
01.03	4	Fundamentals	Heat Transfer
01.03	5	Fundamentals	Two-Phase Flow
01.03	6	Fundamentals	Mass Transfer
01.03	33	Fundamentals	Physical Properties of Materials
01.04	7	Fundamentals	Fundamentals of Control
01.04	48	HVAC Applications	Design and Application of Controls
01.05	41	HVAC Applications	Computer Applications
01.06	39	Fundamentals	Abbreviations and Symbols
01.06	40	Fundamentals	Units and Conversions
01.08	23	Fundamentals	Insulation for Mechanical Systems
01.09	57	HVAC Applications	Electrical Considerations
01.10	7	HVAC Systems and	Combined Heat and Power Systems
01.10	8	HVAC Systems and	Combustion Turbine Inlet Cooling
01.11	45	HVAC Systems and	Motors, Motor Controls, and Variable-Speed Drives
01.12	37	Fundamentals	Moisture Management in Buildings
01.12	64	HVAC Applications	Moisture and Mold
01.13	7777	Fundamentals	Optimization (proposed for 2025)

FG	Chapter No	Volume	Title
03.01	29	Fundamentals	Refrigerants
03.01	30	Fundamentals	Thermophysical Properties of Refrigerants
03.01	31	Fundamentals	Physical Properties of Secondary Refrigerants
03.02	6	Refrigeration	Refrigerant System Chemistry
03.02	7	Refrigeration	Control of Moisture and Other Contaminants in Refrigeration Systems
03.04	12	Refrigeration	Lubricants in Refrigerant Systems
03.06	50	HVAC Applications	Water Treatment: Deposition, Corrosion, and Biological Control
03.08	9	Refrigeration	Refrigerant Containment, Recovery, Recycling, and Reclamation

FG	Chapter No	Volume	Title
04.01	17	Fundamentals	Residential Cooling and Heating Load Calculations
04.01	18	Fundamentals	Nonresidential Cooling and Heating Load Calculations
04.02	14	Fundamentals	Climatic Design Information
04.03	16	Fundamentals	Ventilation and Infiltration
04.03	24	Fundamentals	Airflow Around Buildings
04.03	46	HVAC Applications	Building Air Intake and Exhaust Design
04.04	25	Fundamentals	Heat, Air, and Moisture Control in Building Assemblies—Fundamentals
04.04	26	Fundamentals	Heat, Air, and Moisture Control in Building Assemblies—Material
04.04	27	Fundamentals	Heat, Air, and Moisture Control: Examples
04.04	45	HVAC Applications	Building Envelopes
04.05	15	Fundamentals	Fenestration
04.07	19	Fundamentals	Energy Estimating and Modeling Methods
04.10	13	Fundamentals	Indoor Environmental Modeling
04.10	59	HVAC Applications	Indoor Airflow Modeling

FG	Chapter No	Volume	Title
05.01	21	HVAC Systems and	Fans
05.02	19	HVAC Systems and	Duct Construction
05.02	21	Fundamentals	Duct Design
05.03	20	HVAC Systems and	Room Air Distribution Equipment
05.03	20	Fundamentals	Space Air Diffusion
05.03	58	HVAC Applications	Room Air Distribution
05.04	30	HVAC Systems and	Industrial Gas Cleaning and Air Pollution Control
05.05	26	HVAC Systems and	Air-to-Air Energy Recovery Equipment
05.06	54	HVAC Applications	Fire and Smoke Control
05.07	41	HVAC Systems and	Evaporative Air-Cooling Equipment
05.07	53	HVAC Applications	Evaporative Cooling
05.08	28	HVAC Systems and	Unit Ventilators, Unit Heaters, and Makeup Air Units (pt 3 of 3)
05.08	32	HVAC Applications	Ventilation of the Industrial Environment
05.08	33	HVAC Applications	Industrial Local Exhaust Systems
05.09	16	HVAC Applications	Enclosed Vehicular Facilities
05.10	34	HVAC Applications	Kitchen Ventilation
05.11	22	HVAC Systems and	Humidifiers

FG	Chapter No	Volume	Title
06.01	(deleted)	HVAC Systems and	Pipes, Tubes, and Fittings
06.01	11	HVAC Systems and	Steam Systems
06.01	13	HVAC Systems and	Hydronic Heating and Cooling
06.01	14	HVAC Systems and	Condenser Water Systems
06.01	22	Fundamentals	Pipe Design
06.01	28	HVAC Systems and	Unit Ventilators, Unit Heaters, and Makeup Air Units (pt 1 and 2 of 3)
06.01	32	HVAC Systems and	Boilers
06.01	36	HVAC Systems and	Hydronic Heat-Distributing Units and Radiators
06.01	44	HVAC Systems and	Centrifugal Pumps
06.01	46	HVAC Systems and	Valves
06.01	47	HVAC Systems and	Heat Exchangers
06.01	9898	HVAC Systems and	Chilled-Water Plants
06.02	12	HVAC Systems and	District Heating and Cooling
06.02	15	HVAC Systems and	Medium- and High-Temperature Water Heating
06.03	10	HVAC Systems and	Small Forced-Air Heating and Cooling Systems
06.03	33	HVAC Systems and	Furnaces
06.05	6	HVAC Systems and	Radiant Heating and Cooling
06.05	16	HVAC Systems and	Infrared Radiant Heating
06.05	34	HVAC Systems and	Residential In-Space Heating Equipment
06.05	52	HVAC Applications	Snow Melting and Freeze Protection
06.05	55	HVAC Applications	Radiant Heating and Cooling
06.06	51	HVAC Applications	Service Water Heating
06.07	36	HVAC Applications	Solar Energy Use
06.07	37	HVAC Systems and	Solar Energy Equipment
06.08	9	HVAC Systems and	Applied Heat Pump and Heat Recovery Systems
06.08	35	HVAC Applications	Geothermal Energy
06.09	50	HVAC Systems and	Thermal Storage
06.10	28	Fundamentals	Combustion and Fuels
06.10	31	HVAC Systems and	Automatic Fuel-Burning Systems
06.10	35	HVAC Systems and	Chimney, Vent, and Fireplace Systems

FG	Chapter No	Volume	Title
07.01	60	HVAC Applications	Integrated Project Delivery and Building Design
07.03	38	HVAC Applications	Owning and Operating Costs
07.03	40	HVAC Applications	Operation and Maintenance Management
07.05	43	HVAC Applications	Supervisory Control Strategies and Optimization
07.05	63	HVAC Applications	Smart Building Systems
07.06	37	HVAC Applications	Energy Use and Management
07.06	42	HVAC Applications	Building Energy and Water Monitoring
07.07	39	HVAC Applications	Testing, Adjusting, and Balancing
07.07	9797	HVAC Systems and	Possible new chapter on TAB instrumentation
07.09	44	HVAC Applications	Building Commissioning

FG	Chapter No	Volume	Title
08.01	8	Refrigeration	Factory Dehydrating, Charging, and Testing
08.01	38	HVAC Systems and	Compressors (pt 1 of 2)
08.01	43	HVAC Systems and	Liquid-Chilling Systems (pt 1 of 2)
08.02	38	HVAC Systems and	Compressors (pt 2 of 2)
08.02	43	HVAC Systems and	Liquid-Chilling Systems (pt 2 of 2)
08.03	2	Fundamentals	Thermodynamics and Refrigeration Cycles (pt 2 of 2)
08.03	18	Refrigeration	Absorption Cooling, Heating, and Refrigeration Equipment
08.04	14	Refrigeration	Forced-Circulation Air Coolers
08.04	23	HVAC Systems and	Air-Cooling and Dehumidifying Coils
08.04	27	HVAC Systems and	Air-Heating Coils
08.04	39	HVAC Systems and	Condensers (pt 1 of 3)
08.05	39	HVAC Systems and	Condensers (pt 2 of 3)
08.05	42	HVAC Systems and	Liquid Coolers
08.06	39	HVAC Systems and	Condensers (pt 3 of 3)
08.06	40	HVAC Systems and	Cooling Towers
08.07	18	HVAC Systems and	Variable Refrigerant Flow
08.08	11	Refrigeration	Refrigerant-Control Devices
08.09	17	Refrigeration	Household Refrigerators and Freezers
08.10	25	HVAC Systems and	Mechanical Dehumidifiers and Related Components
08.10	32	Fundamentals	Sorbents and Desiccants
08.10	51	HVAC Systems and	Dedicated Outdoor Air Systems
08.11	1	HVAC Applications	Residential Space Conditioning
08.11	48	HVAC Systems and	Unitary Air Conditioners and Heat Pumps
08.11	49	HVAC Systems and	Room Air Conditioners and Packaged Terminal Air Conditioners
08.12	24	HVAC Systems and	Desiccant Dehumidification and Pressure-Drying Equipment

FG	Chapter No	Volume	Title
09.01	1	HVAC Systems and	HVAC System Analysis and Selection
09.01	2	HVAC Systems and	Decentralized Cooling and Heating
09.01	3	HVAC Systems and	Central Cooling and Heating Plants
09.01	4	HVAC Systems and	Air Handling and Distribution
09.01	5	HVAC Systems and	In-Room Terminal Systems
09.02	(deleted)		Environmental Test Facilities
09.02	15	HVAC Applications	Industrial Air Conditioning
09.02	18	HVAC Applications	Engine Test Facilities
09.02	21	HVAC Applications	Printing Plants
09.02	22	HVAC Applications	Textile Processing Plants
09.02	23	HVAC Applications	Photographic Material Facilities
09.02	27	HVAC Applications	Air Conditioning of Wood and Paper Product Facilities
09.02	28	HVAC Applications	Power Plants
09.02	29	HVAC Applications	Nuclear Facilities
09.02	30	HVAC Applications	Mine Air Conditioning and Ventilation
09.02	31	HVAC Applications	Industrial Drying Systems
09.03	11	HVAC Applications	Automobiles
09.03	12	HVAC Applications	Mass Transit
09.03	13	HVAC Applications	Aircraft
09.03	14	HVAC Applications	Ships
09.06	9	HVAC Applications	Health Care Facilities
09.07	8	HVAC Applications	Educational Facilities
09.08	2	HVAC Applications	Retail Facilities
09.08	3	HVAC Applications	Commercial and Public Buildings
09.08	5	HVAC Applications	Places of Assembly
09.08	6	HVAC Applications	Indoor Swimming Pools
09.08	7	HVAC Applications	Hospitality
09.08	10	HVAC Applications	Justice Facilities
09.08	24	HVAC Applications	Museums, Galleries, Libraries, and Archives
09.08	9633	HVAC Applications	Fire Stations
09.08	9635	HVAC Applications	Atriums
09.09	20	HVAC Applications	Data Processing and Telecommunication Facilities
09.10	17	HVAC Applications	Laboratories
09.11	19	HVAC Applications	Clean Spaces
09.12	4	HVAC Applications	Tall Buildings

FG	Chapter No	Volume	Title
10.01	4	Refrigeration	Liquid Overfeed Systems
10.01	5	Refrigeration	Component Balancing in Refrigeration Systems
10.01	13	Refrigeration	Secondary Coolants in Refrigeration Systems
10.01	45	Refrigeration	Concrete Dams and Subsurface Soils
10.01	46	Refrigeration	Refrigeration in the Chemical Industry
10.01	47	Refrigeration	Cryogenics
10.01	48	Refrigeration	Ultralow-Temperature Refrigeration
10.01	49	Refrigeration	Biomedical Applications of Cryogenic Refrigeration
10.01	50	Refrigeration	Terminology of Refrigeration
10.02	19	Refrigeration	Thermal Properties of Foods
10.02	20	Refrigeration	Cooling and Freezing Times of Foods
10.02	21	Refrigeration	Commodity Storage Requirements
10.02	22	Refrigeration	Food Microbiology and Refrigeration
10.02	23	Refrigeration	Refrigerated-Facility Design
10.02	24	Refrigeration	Refrigerated-Facility Loads
10.02	28	Refrigeration	Methods of Precooling Fruits, Vegetables, and Cut Flowers
10.02	29	Refrigeration	Industrial Food-Freezing Systems
10.02	30	Refrigeration	Meat Products
10.02	31	Refrigeration	Poultry Products
10.02	32	Refrigeration	Fishery Products
10.02	33	Refrigeration	Dairy Products
10.02	34	Refrigeration	Eggs and Egg Products
10.02	35	Refrigeration	Deciduous Tree and Vine Fruit
10.02	36	Refrigeration	Citrus Fruit, Bananas, and Subtropical Fruit
10.02	37	Refrigeration	Vegetables
10.02	38	Refrigeration	Fruit Juice Concentrates and Chilled-Juice Products
10.02	39	Refrigeration	Beverages
10.02	40	Refrigeration	Processed and Prepared Foods
10.02	41	Refrigeration	Bakery Products
10.02	42	Refrigeration	Chocolates, Candies, Nuts, Dried Fruits, and Dried Vegetables
10.02	43	Refrigeration	Ice Manufacture
10.02	44	Refrigeration	Ice Rinks
10.03	1	Refrigeration	Halocarbon Refrigeration Systems
10.03	2	Refrigeration	Ammonia Refrigeration Systems
10.03	3	Refrigeration	System Practices for Carbon Dioxide Refrigerant
10.03	10	Refrigeration	Insulation Systems for Refrigerant Piping
10.06	25	Refrigeration	Cargo Containers, Rail Cars, Trailers, and Trucks
10.06	26	Refrigeration	Marine Refrigeration
10.06	27	Refrigeration	Air Transport
10.07	15	Refrigeration	Retail Food Store Refrigeration and Equipment
10.07	16	Refrigeration	Food Service and General Commercial Equipment

FG	Chapter No	Volume	Title
EHC	10	Fundamentals	Indoor Environmental Health
MTG.OBB	65	HVAC Applications	Occupant-Centric Sensing and Controls
MTG.OBB	8413	Fundamentals	Occupant Sensing (proposed)
multi	9736	HVAC Applications	Indoor Air Cleaners
Staff	66	HVAC Applications	Codes and Standards
TG2.HVA	61	HVAC Applications	HVAC Security

Appendix J - Cognizant FG Standards

Commentary: For the latest updated list contact MORTS@ashrae.net

TC 1.1	SSPC 41	Std 41.1-2020
	SSPC 41	Std 41.2-2018R
	SSPC 41	Std 41.3-2022
	SSPC 41	Std 41.4-2015R
	SSPC 41	Std 41.6-2021
	SSPC 41	Std 41.7-2021
	SSPC 41	Std 41.8-2016(RA2019)
	SSPC 41	Std 41.9-2021
	SSPC 41	Std 41.10-2020
	SSPC 41	Std 41.11-2020
	SSPC 41	Std 41.13P
	SPC 213	Std 213P
TC 1.2		Gdl 2-2010(RA2014)W
	SSPC 41	Std 41.1-2020
	SSPC 41	Std 41.2-2018R
	SSPC 41	Std 41.3-2022
	SSPC 41	Std 41.4-2015R
	SSPC 41	Std 41.6-2021
	SSPC 41	Std 41.7-2021
	SSPC 41	Std 41.8-2016(RA2019)
	SSPC 41	Std 41.9-2021
	SSPC 41	Std 41.10-2020
	SSPC 41	Std 41.11-2020
	SSPC 41	Std 41.13P
TC 1.3		None
TC 1.4	SGPC 13	Gdl 13-2015 [CM]
	SGPC 36	Gdl 36-2021 [CM]
	SSPC 135	Std 135-2020 [CM]
	SSPC 135	Std 135.1-2019 [CM]
	SPC 195	Std 195-2013R
	SSPC 135	Std 223P
	SPC 231	Std 231P
TC 1.5	GPC 20	Gdl 20-2010 (RA 2016)R
TC 1.6		Std 134-2005(RA2014)W
TC 1.7 (TG 1.GLE)		None
TC 1.8 (4.13)		None
TC 1.9		None
TC 1.10 (9.5)	SPC 204	Std 204-2020R
TC 1.11 (8.11)	SPC 222	Std 222-2018R
TC 1.12 (TG9.MMB)	GPC 46	Gdl 46P
TC 1.13 (TG1.OPT)		None

TC 2.1	GPC 45	Gdl 45P
	SSPC 55	Std 55-2020 [CM]
		Std 216-2020
TC 2.2		None
TC 2.3		Gdl 27-2019
	SSPC 145	Std 145.1-2015 [CM]
	SSPC 145	Std 145.2-2016 [CM]
TC 2.4	SSPC 52.2	Std 52.2-2017 [CM]
	SPC 180	Std 180-2018R
TC 2.5 (TG 2.GCC)		None
TC 2.6		None
TC 2.7		Std 171-2017
TC 2.8	SSPC 189.1	Std 189.1-2017 [CM]
	SPC 191	Std 191P
	SPC 227	Std 227P
TC 2.9 (TG2.UVAS)	GPC 37	Gdl 37P
	SSPC 185	Std 185.1-2020 [CM]
	SSPC 185	Std 185.2-2020 [CM]
	SSPC 185	Std 185.3P
	SSPC 185	Std 185.4P
TC 2.10 (TG2.HVAC) (TRG2.BCBR)	GPC 29	Gdl 29-2019

TC 3.1	GPC 6	Gdl 6-2015R
	GPC 39	Gdl 39-2017R
	SSPC 34	Std 34-2019 [CM]
	SPC 177	Std 177P
TC 3.2		Gdl 38-2018
	GPC 39	Gdl 39-2017R
	SPC 97	Std 97-2007 (RA 2017) Std 97-2007R
	SPC 175	Std 175P
	SPC 177	Std 177P
~~**TC 3.3**~~ **Now merged into TC 3.2**	SPC 35	Std 35-2014R
		~~Std 63.1-1995(RA 2001)W~~
		Std 63.2-2017
	SPC 78	Std 78-1985 (RA 2017) Std 78-1985R
		Std 219-2021
TC 3.4	GPC 40	Gdl 40-2017R
	SPC 86	Std 86-2013(RA2016)R
		Std 99-2006W
	SPC 172	Std 172-2017R
	SPC 218	Std 218-2019R
TC 3.6	SSPC 188	Gdl 12-2020 [CM]
	SSPC 188	Std 188-2021 [CM]
	SPC 514	Std 514P
TC 3.8	SSPC 147	Std 147-2019[CM]
	SPC 173	Std 173-2012 (RA 2016)R
	SPC 196	Std 196P

TC 4.1		Std 183-2007 (RA 2020)
		Std 203-2018 (RA 2021)
TC 4.2	SSPC 169	Std 169-2021[CM]
TC 4.3 (5.12)		Gdl 24-2015W
	SSPC 161	Gdl 28-2021 [CM]
	SSPC 62.1	Std 62.1-2019 [CM]
	SSPC 62.2	Std 62.2-2019 [CM]
	SSPC 161	Std 161-2018 [CM]
	SRS	Std 193-2010(RA 2014)R
TC 4.4	SSPC 160	Std 160-2009 [CM]
TC 4.5		
TC 4.7	SSPC 140	Std 140-2020 [CM]
	SPC 205	Std 205P
	SPC 209	Std 209-2018R
	SPC 229	Std 229P
	SPC 232	Std 232P
TC 4.10		Gdl 33-2021
TRG4.IAQP		None

TC 5.1		Std 51-2016 (AMCA 210)
		~~Std 68-1997W~~
		Std 149-2013W
TC 5.2	SRS	Std 120-2017R
		Std 126-2020
		Std 215-2018 (RA 2021)
TC 5.3	SPC 70	Std 70-2006 (RA 2021) ~~Std 70-2006R~~
	SPC 79	Std 79-2015R
	SPC 113	Std 113-2013R
	SPC 129	Std 129P ~~[Std 129-1997 (RA 2002)R]~~
	SPC 130	Std 130-2016R
		Std 200-2018
TC 5.4		Std 199-2016
TC 5.5		Std 84-2020
TC 5.6	SSPC 300	Gdl 1.5-2017 ~~(Long Beach 2007; Gdl 5-~~
		Std 149-2013W
TC 5.7	SPC 133	Std 133-2015R
	SPC 143	Std 143-2015R
		Std 212-2019
TC 5.9		None
		Std 217-2020
TC 5.10	SSPC 154	Std 154-2016 [CM]
TC 5.11 (8.7)	SSPC 164	Std 164.1-2012 (RA 2016)R
	SSPC 164	Std 164.2-2012 (RA 2016)R
	SSPC 164	Std 164.3-2015R
	SSPC 164	Std 164.4-2021

TC 6.1 (6.1 and 6.11)		
	GPC 22	Gdl 22-2012R
		Std125-2020
	SPC 155	Std 155P
	SPC 208	Std 208P
TC 6.2		None
TC 6.3		Std 103-2022
	SPC 152	Std 152-2014R
	SPC 193	Std 193-2010(RA 2014)R
TC 6.5		Std 138-2021
TC 6.6		Std 95-1987
	SSPC 188	Gdl 12-2020 [CM]
	SPC 118.1	Std 118.1-2008R
	SPC 118.2	Std 118.2-2006 (RA 2015)R
	SPC 124	Std 124-2007(RA 2016) ~~Std 124-2007R~~
		~~Std 137-2013 (RA 2017)W~~
		Std 146-2020
	SSPC 188	Std 188-2021 [CM]
	SPC 191	Std 191P
TC 6.7		~~Std 93-2010(RA 2014)W~~
		Std 95-1987
		Std125-2020
TC 6.8	SRS	Std 194-2017R
TC 6.9		Std 94.2-2010W
	SPC 150	Std 150-2019R
	SPC 233	Std 233P
TC 6.10		None

TC 7.1 (4.12)		None
TC 7.2		None
TC 7.3 (1.7)		Gdl 4-2019
	SSPC 300	Gdl 1.3-2018 (Long Beach 2007: formerly Gdl 31)
		Gdl 32-2018
	SPC 180	Std 180-2018R
	SSPC 221	Std 221-2020 [CM]
TC 7.4 (TG1.Exergy)		None
TC 7.5 (4.11)		Std 201-2016 (RA 2020)
		Std 207-2021
TC 7.6 (9.6)	GPC 14	Gdl 14-2014R
		Gdl 34-2019
	GPC 45	Gdl 45P
	SSPC 90.1	Std 90.1-2019 [CM]
	SSPC 90.2	Std 90.2-2018 [CM]
	SSPC 100	Std 100-2018 [CM]
		Std 105-2021
		Std 211-2018
		Std 214-2017
	SPC 228	Std 228P
TC 7.7 (9.7)		Gdl 11-2021
	SPC 111	Std 111-2008(RA 2017) Std 111-2008R
TC 7.9 (9.9)	SSPC 300	Gdl 0.2-2015R
	SSPC 300	Gdl 1.1-2007R (Long Beach 2007: formerly Gdl 1)
	SSPC 300	Gdl 1.2-2019 (Long Beach 2007: formerly Gdl 30)
	SSPC 300	Gdl 1.3-2018 (Long Beach 2007: formerly Gdl 31)
	SSPC 300	Gdl 1.4-2019 [CM]
	SSPC 300	Gdl 1.6P
	SSPC 300	Gdl 1.7P
	SSPC 300	Std 202-2018 [CM]
	SSPC 300	Std 230P (formerly 202.2P)

TC 8.1		Std 23-2022 (formerly 226P)
		Std 23.1-2019
		Std 23.2-2019
	SSPC 41	Std 41.1-2020
	SSPC 41	Std 41.2-2018R
	SSPC 41	Std 41.3-2022
	SSPC 41	Std 41.4-2015R
	SSPC 41	Std 41.6-2021
	SSPC 41	Std 41.7-2021
	SSPC 41	Std 41.8-2016(RA 2019)
	SSPC 41	Std 41.9-2021
	SSPC 41	Std 41.10-2020
	SSPC 41	Std 41.11-2020
	SSPC 41	Std 41.13P
		Std 225-2020
TC 8.2	GPC 22	Gdl 22-2012R
	SSPC 30	Std 30-2019 [CM]
		Std 184-2020
TC 8.3	SPC 40	Std 40-2014R
		Std 182-2020
TC 8.4		Std 20-2019
		Std 25-2018
	SPC 33	Std 33-2016R
TC 8.5	SPC 22	Std 22-2018R
		Std 24-2019
	SSPC 30	Std 30-2019 [CM]
	SPC 181	Std 181-2018R
TC 8.6		Std 64-2020
TC 8.7 (TG8.VRF)	SGPC 41	Gdl 41-2020 [CM]
TC 8.8	SPC 17	Std 17-2015R
	SPC 28	Std 28-1996(RA 2020)R
		Std 153-2021
		Std 158.1-2019
	SPC 158.2	Std 158.2-2018R
TC 8.9 (7.1)		None
TC 8.10 (7.5)	SRS	Std 139-2019R
	SRS	Std 174-2018R
		Std 190-2020
	SPC 198	Std 198-2013R
TC 8.11 (7.6)	SSPC 15	Std 15.2P [CM upon publication]
	SPC 16	Std 16-2010R
	SPC 37	Std 37-2009(RA 2019)R
		~~Std 58-1986R~~
		~~Std 116-2010R~~
		~~Std 137-2013 (RA 2017)W~~
		Std 206-2013 (RA 2017)
~~**TC 8.12 (3.5) Merged into TC 8.10**~~		~~Std 139-2019~~
		~~Std 174-2018~~

TC 9.1	SSPC 300	Gdl 0-2019 [CM]
		Gdl 16-2022
	GPC 22	Gdl 22-2012R
		Gdl 34-2019
	SSPC 15	Std 15-2019 [CM]
TC 9.2	GPC 21	Gdl 21-2018R (IEEE 1635-2018R)
		Std 128-2018
TC 9.3	GPC 23	Gdl 23-2016R
	SSPC 161	Gdl 28-2021 [CM]
	SPC 26	Std 26-2010(RA 2020)R
	SSPC 161	Std 161-2018 [CM]
TC 9.6	SSPC 170	Gdl 43P
	SSPC 170	Std 170-2021 [CM]
	SSPC 189.3	Std 189.3-2021 [CM]
TC 9.7		None
TC 9.8		Gdl 34-2019
	SPC 180	Std 180-2018R
TC 9.9 (TG9.HDEC)	SSPC 90.4	Std 90.4-2019 [CM]
	SSPC 127	Std 127-2020 [CM]
TC 9.10	SPC 110	Std 110-2016R
TC 9.11		None
TC 9.12		None
TRG9.CCD		None

TC 10.6	SPC 26	Std 26-2010(RA2020)R
TC 10.7		Std 18-2008(RA2013)W
	SRS	Std 29-2015(RA2018)RA
	SRS	Std 32.1-2017R
	SRS	Std 32.2-2018RA
	SSPC 72	Std 72-2018 [CM]
	SPC 210	Std 210P
	SPC 220	Std 220P
~~**TC 10.8**~~ Merged into TC 10.2		~~None~~

EHC	SGPC 10	Gdl 10-2016 [CM]
	GPC 44	Gdl 44P
	SSPC 188	Gdl 12-2020 [CM]
	SSPC 188	Std 188-2021 [CM]
MTG.BIM	SPC 224	Std 224P
Residential Building Committee (RBC)	GPC 46	Gdl 46P

Appendix K – Webmaster Procedures

Commentary:

This entire Appendix has been deleted and replace by hyperlink https://www.ashrae.org//File%20Library/Communities/Committees/Standing%20Committees/Electronic%20Communications%20Committee/webpolicyforashraegroups6-25-2015--1-.pdf

Advancing the Arts and Sciences of HVAC&R
for the Benefit of Humanity

MULTI DISCIPLINARY TASK GROUPS (MTG) MANUAL OF PROCEDURES (MOP)

MULTI DISCIPLINARY TASK GROUPS
(MTGs)

062522 Initial release

Table of Contents

Foreword

ASHRAE Multidisciplinary Task Groups (MTGs) is a group that reports to the Technical Activities Committee (TAC) and responsive to:

a) the purposes of ASHRAE as described in the Certificate of Consolidation,
b) compliant to the Society Bylaws,
c) guided by the Rules of the Board, and
d) abiding with the Commercialism Policy, the Code of Ethics, and the Harassment Policy.

Initiated during Lynn Bellenger's service as Society President, the MTGs are structured to respond to specific problems and tasks with a need for expertise from differing disciplines. By nature, these are directed more to unanticipated topics, relatively short-term tasks requiring creativity and problem-solving skills, as well as technical expertise in differing areas.

Purpose

The overall purpose of MTG is the advancement of the Arts and Sciences in response to Society emerging needs, multidisciplinary in nature, and encompassing the expertise of two or more FGs. This could include, but not limited to, Position Documents, press releases, and white papers.

Formation

An MTG is formed when the Society, or an individual member, has determined a need for a specific activity in a field of interest. It encompasses the expertise of two or more FGs, project committees (e.g., SPCs, SSPCs, GPCs), standing committees, or committees and groups outside of ASHRAE.

MTGs, in order to be effective in addressing emerging needs, must be responsive to the defined need, transparent, inclusive and representative of the participating stakeholders, and be accountable in meeting scope and timeline to the Technical Activities Committee (TAC). The MTGs must conduct their task with a clear, unified vision and constructive consensus towards definition of strategies in response to the emerging need(s).

Authority Documents

Authority Documents as they apply to the MTG

Commentary:

The Authority Documents have been placed in the front of this Manual of Procedures, versus in an Appendix, so that a casual reader will be exposed these most important documents.

Certificate of Consolidation

Commentary: On January 16, 1959, the American Society of Heating and Air-Conditioning Engineers, Inc. and The American Society of Refrigeration Engineers merged. The purpose of the consolidated corporation was stated in ten (10) guidelines (Certificate Of Consolidation | ashrae.org). Only the first tenant is presented for brevity.

(a) To advance the arts and sciences of heating, refrigeration, and air conditioning and ventilation, and the allied arts and sciences, for the benefit of the general public.

ASHRAE By-Laws (https://www.ashrae.org/file%20library/about/governance/ashrae-bylaws---july-2021.pdf)

Commentary:

Section 7.8: Technical Activities Committee. This standing committee, the members of which are elected individually by the Board of Directors, shall plan for and have charge of the activities of the technical committees, task groups, and technical resource groups appointed to **further the advancement of the arts and sciences of heating, refrigerating, air conditioning, ventilating, and the allied arts and sciences for the public benefit.** Subject to the procedures prescribed by the Board of Directors, the Technical Activities Committee shall approve the formation of technical committees, task groups and technical resource groups as necessary to carry out the objectives of the committee. The committee shall also determine the scope of activities of each of these technical committees, task groups and technical resource groups.

ASHRAE Code of Ethics (https://www.ashrae.org/about/governance/code-of-ethics)

Commentary: This is stated in the Rules of the Board (ROB) section 1.140 CODE OF ETHICS

This is a unique attribute for an organization that does not require paid member to participate or any professional accreditation such as a Professional Engineers License. There are eight (8) requirements to follow, however, for the purpose of the TC MOP item E states: “We shall avoid real or perceived conflicts of interest whenever possible, and disclose them to affected parties when they do exist.”

ASHRAE Discrimination and Harassment Policy
(https://www.ashrae.org/about/governance/ashrae-discrimination-and-harassment-policy)

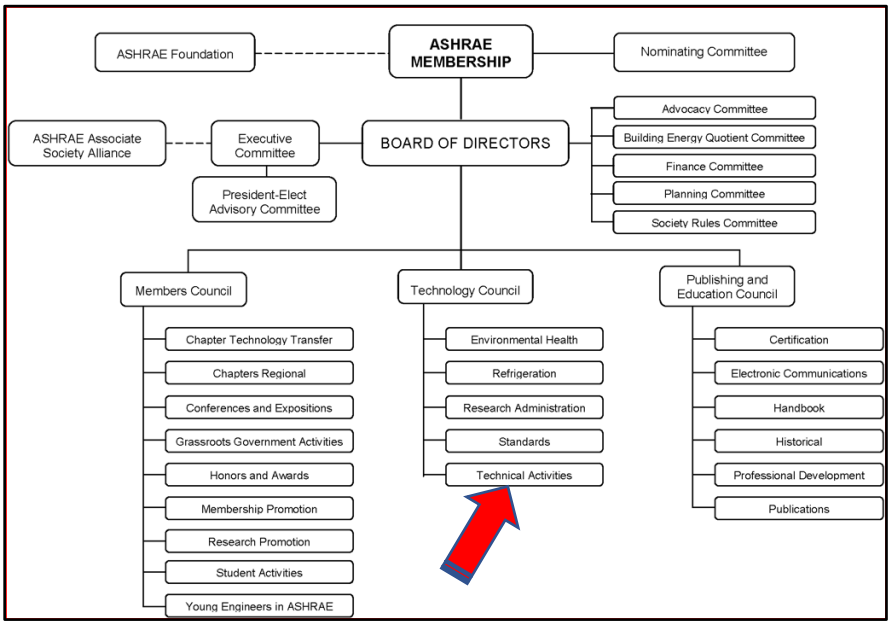
Rules of the Board (https://www.ashrae.org/about/governance/rules-of-the-board)

Commentary: 2.428.004 STRATEGIC PLAN: This committee **[TAC is responsible for assisting in the development of the Strategic Plan with the input of all the MTGs]** shall develop procedures for recommending updates to the strategic plan on a continuous basis. As a minimum the committee shall submit a repost to the council prior to the Annual Meeting. The report includes the current status of each activity which support the fulfillment of the committee's assignments under the strategic plan. The committee shall report to the council all recommendations for changes to the strategic plan as provided by the committee's constituents prior to the Annual Meeting.

Technical Activities Committee (TAC) Manual of Procedures (MOP)
(https://www.ashrae.org/file%20library/communities/committees/standing%20committees/technical%20activities%20committee/tac-mop---2.5.2020.docx)

Organizational Chart

Commentary: Here is where you fit into the ASHRAE organizational structure reporting to the Technical Activities Committee (TAC) through your Section Head.



Participants

All involved in the process should be ASHRAE members embracing the following:

a) Representative experts in a specific discipline related to the task,
b) Creative problem solvers,
c) Comfortable in breaking paradigms,
d) Visionary, and
e) Open to constructive dialog and consideration of alternative solutions and strategies.

There should be at least two cognizant Functional Groups (FGs) groups appointing not more than two members each to the MTG. The MTG's leadership shall be appointed by the MTG Section Head. The leadership team should include expertise in problem solving, and their terms should continue until a final report is submitted. The leadership team should be empowered to add further participants with the consent of the Section Head.

Proposal

1. A request for consideration of the formalizing of a MTG can be submitted by any member or entity of ASHRAE including, but not limited to, the Board of Directors or its Executive Committee, a Council, the College of Fellows, Chapters, Standing Committees, and individual ASHRAE Members.
2. Proposal is to address an emerging problem which relates to the advancement of the arts and sciences of HVAC&R for the benefit of humanity and the current ASHRAE Strategic Plan.
3. The proposal, to be submitted to TAC, should include content on the following:
   a) Title, purpose, and scope;
   b) Name and e-mail address of the proposer,
   c) Clear problem statement with desired deliverable(s),
   d) Background of scope or problem statement,
   e) Anticipated timeline and suggested sunset date,
   f) List of cognizant ASHRAE and non-ASHRAE committees and groups,
   g) Reference and names of eligible participants, and
   h) Entities not associated with ASHRAE but are interested in the problem.

4. TACs approval will consider the proposed MTG to meet a notable needs in the industry or the current ASHRAE Strategic Plan, deliverables, and proposed timeline. TAC may choose to revise the MTG proposal as needed.

Product

1. The deliverable will minimally be a final report, clearly recommending steps to be considered by ASHRAE in the advancement of the Arts and Sciences of HVAC&R in response to the identified emerging society need.
2. Additional deliverables will be determined by the nature of the scope or problem statement.
3. The final report will be presented to TAC for review and approval.
5. Once approved, the report may be presented to Technology Council, the Board of Directors, and other ASHRAE and non-ASHRAE groups, where endorsements may be received.

MTG Expectations

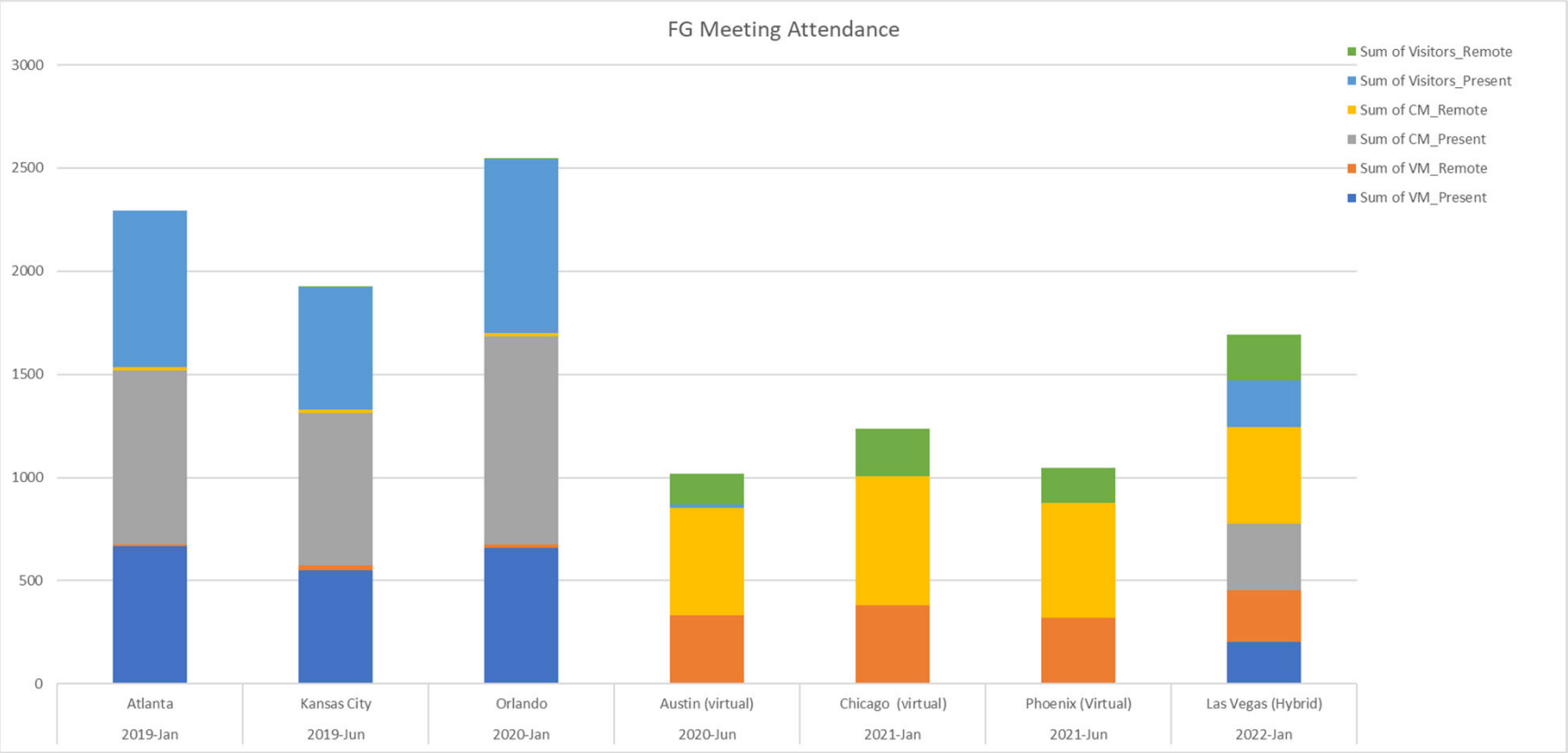
Commentary:

To empower the MTG to be as flexible and responsive to their defined **task**(s) as possible the Technical Activities Committee has decided to provide a list of "expectations" **[in some instances this is noted as "shall"]** rather than a list of requirements generally found in a Manual of Procedures (MOP).

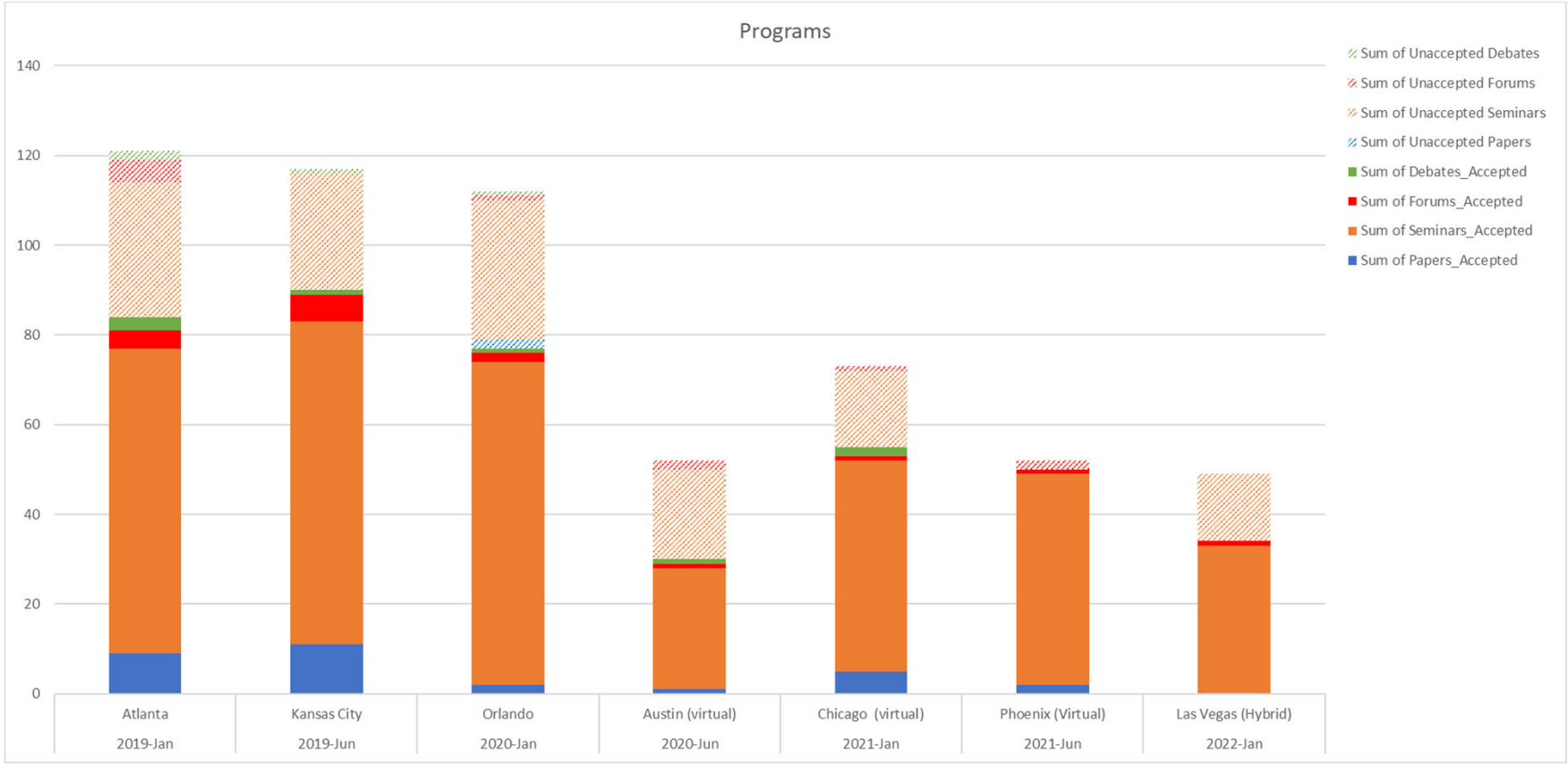
1. The formation of a new MTG requires a Title, Purpose, and Scope (TPS), identification of deliverables, and a timeline for presenting the final work product to TAC for review and approval.
2. Will sunset upon completion of final report in accordance with the proposed timeline.
3. The leadership team:
    a. Shall have completed the ASHRAE Leadership Development Auto-Tutorials (Technical Activities Committee (ashrae.org)).
    b. Together with the Section Head shall be fully empowered. The Chair should be not a captain, timekeeper, or parliamentarian, but an enabler for creative outcomes and a visionary in inspiring others.
    c. Should focus on ideation for alternatives and converging consensus (refer Block B.1.d of the Leadership Development Auto-Tutorial).
4. It is recommended MTGs meet virtually a minimum of 6 times per year with suggested 50-minute meetings. No requirement for in-person meetings.
5. No reimbursement for travel expenses.
6. Membership
    a. Leadership positions shall include a Chair and Vice Chair. Optional positions may include Secretary, Webmaster, and Membership Coordinator.
    b. Chair and Vice Chair will serve until the final product of the MTG is approved.
    c. It is strongly encouraged that the MTG has no less than seven and not more than twenty voting members.
    d. Leadership positions and Voting Members must be ASHRAE members in good standing. This may be waived with the approval of the Section Head.
    e. Voting membership balance shall be considered by TAC when approving MTG membership.
    f. The Chair and Vice Chair will be responsible to ensure individual bias is avoided.
    g. Provisional corresponding membership will be available at the discretion of the Chair.
    h. MTG members shall adhere to ASHRAE Code of Ethics, ASHRAE Discrimination and Harassment Policy and other ASHRAE policies that may apply.
7. Chair may choose to follow any strategies to reach consensus. Limited use of Simplified Roberts Rules of Order should be used to maintain meeting organization and agenda.
8. Do not present motions unless consensus is reached on a final decision, report, or deliverable.
9. Reporting
    a. Provide a written quarterly update to the Section Head including initiatives for maintaining balance of voting members and avoiding individual bias.
    b. Post DRAFT meeting agenda at least 15 days before meeting.
    c. Post DRAFT meeting minutes no later than 15 days after a meeting (Chair may choose to list outcomes reached through consensus in lieu of detailed minutes).
    d. Post an ongoing list of action items accomplished on Basecamp and webpage (no need for detailed meeting minutes).
    e. All meetings must include advanced notice using all available ASHRAE resources. Maintain a MTG website and basecamp.
10. All members of the MTG will be advised at the start of any meeting that the Code of Ethics will be followed and a link to the ASHRAE website provided.
11. All meetings are open to whomever chooses to attend.
12. Provide time for Open Forum (comments from visitors and guests) at the end of each meeting.

FG Activity Data

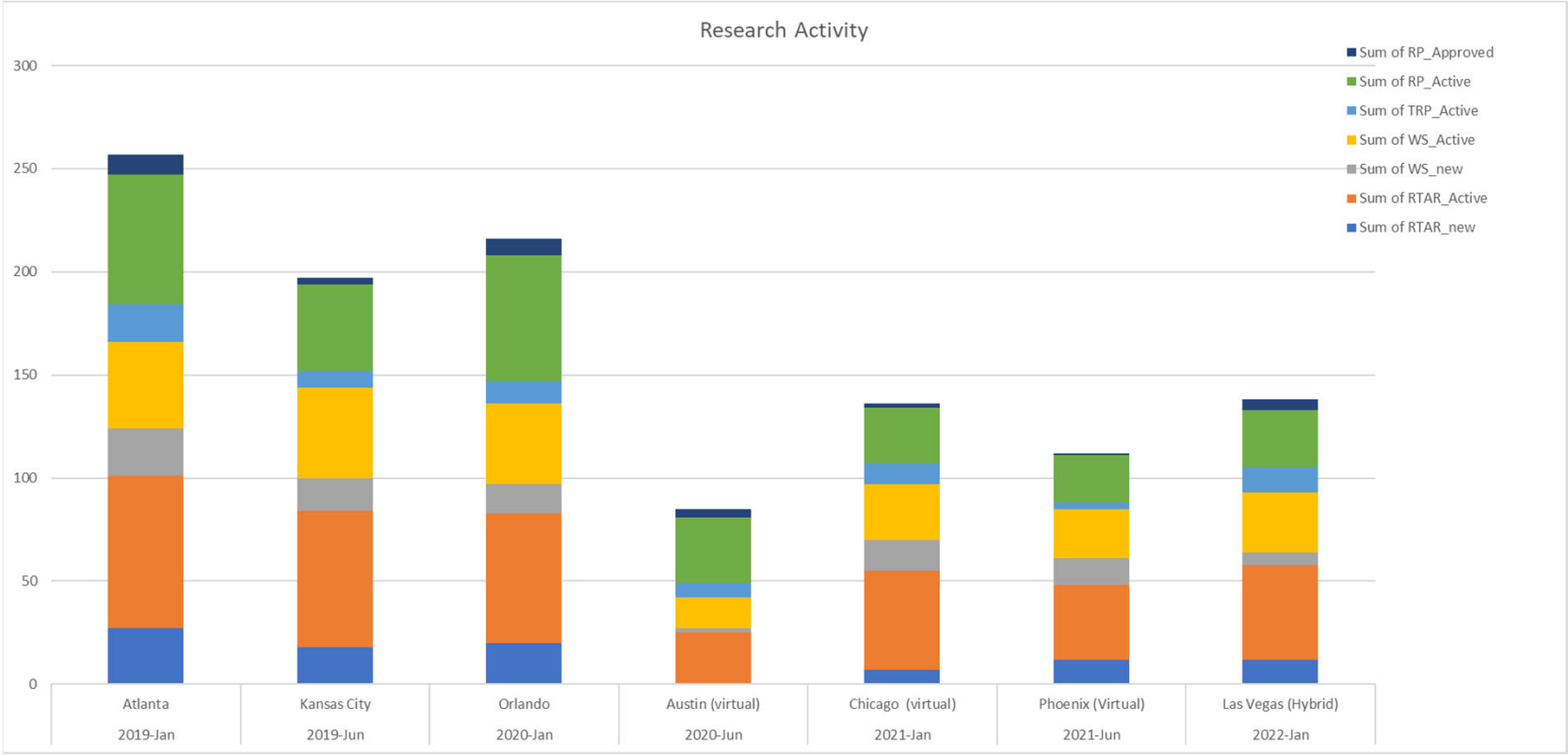
- TAC has been collecting FG activity data for a long time using TC activity forms after every conference
- Data collection today requires a lot of manual effort to compile and gain insights into FG activities and health
- TAC has made significant progress in recent years to collect the data in a database and has now started analyzing the data to try to gain some insights into FG functioning
- Some examples with some preliminary conclusions/insights are shown in the next few slides
- The newly approved project to automate collect TC activity data help significantly by eliminating the manual manipulation required today by the section heads and TAC data analysis co-ordinator



1. FG meeting attendance decreased when pandemic started
2. FG meeting attendance is recovering
3. TAC can track by attendance type
4. Voting membership is consistent

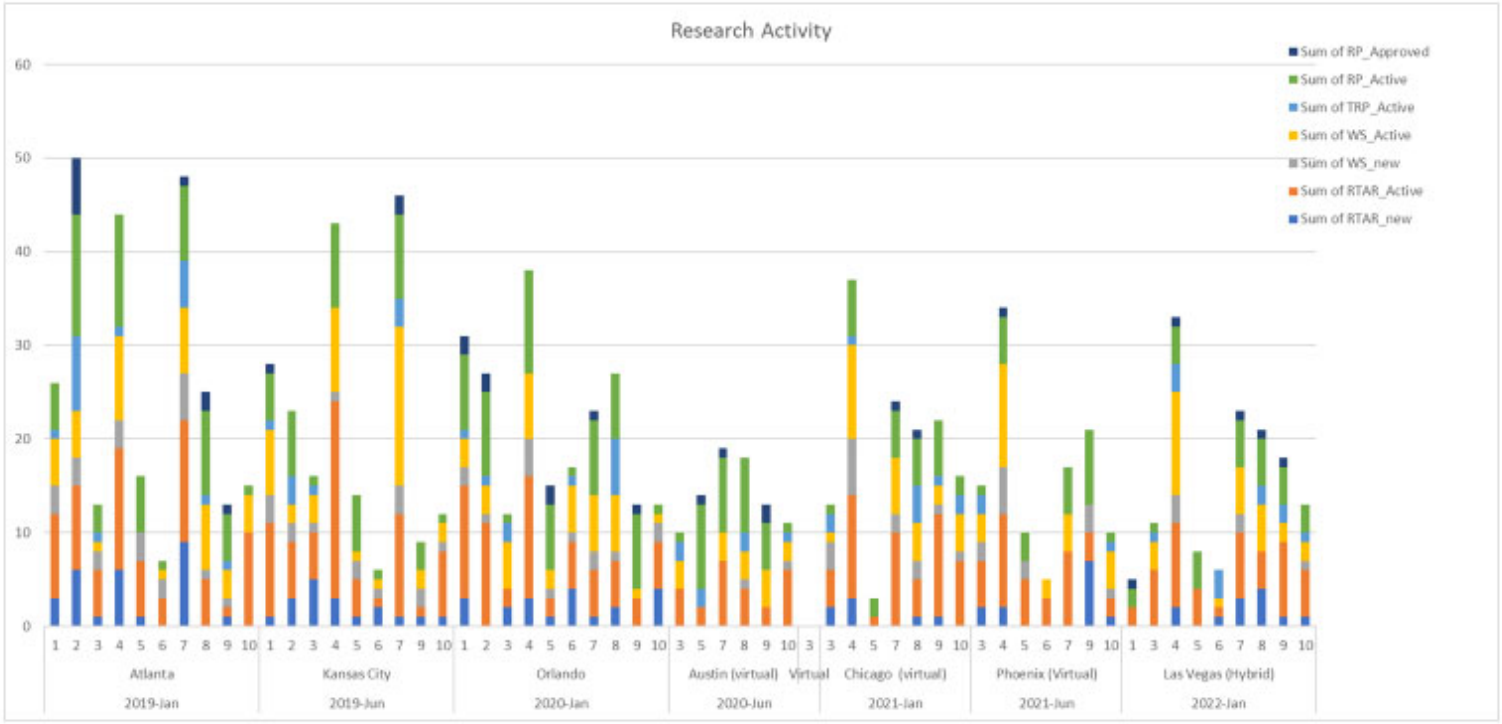


1. Similar to FG attendance, program submissions by TCs decreased during pandemic
2. Working to understand this data
    a. Is the data showing a preference for in-person presentations?
    b. Is there missing data in the TAC database of FG activities?
    c. Does this agree with CEC data?

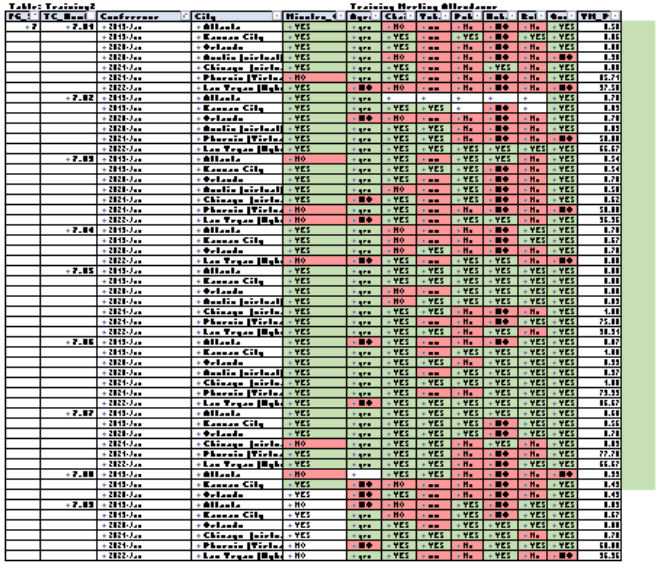


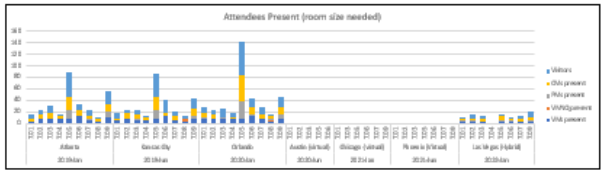
1) Many projects were completed between Orlando and Austin
2) Research funding issues reduced the number of active projects
3) Research proposals dipped amidst pandemic and funding shortfall time; starting to pickup

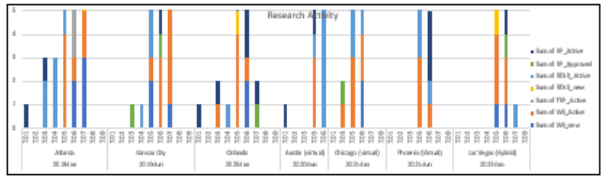
1. Data collected through TC activity forms can be analyzed to understand finer details
2. Can help identify TCs that are productive and help identify TCs that need further assistance
3. An example is shown below that breaks down the research activity shown in the previous slide broken down into sections

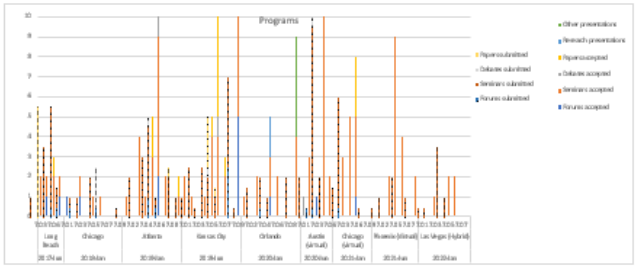


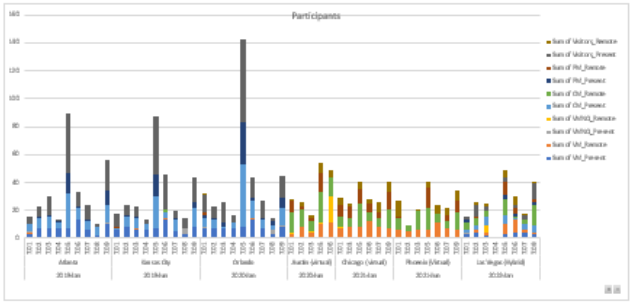
1. An example is shown below that breaks down all FG activities for a particular section



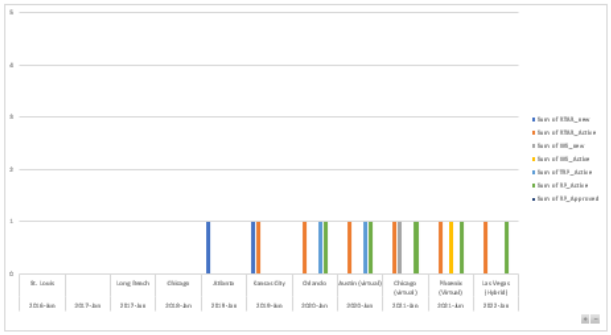


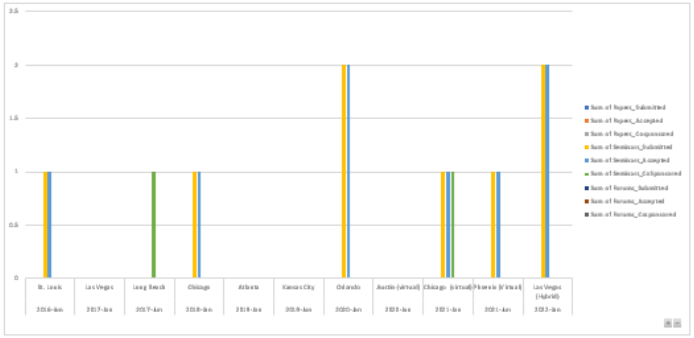


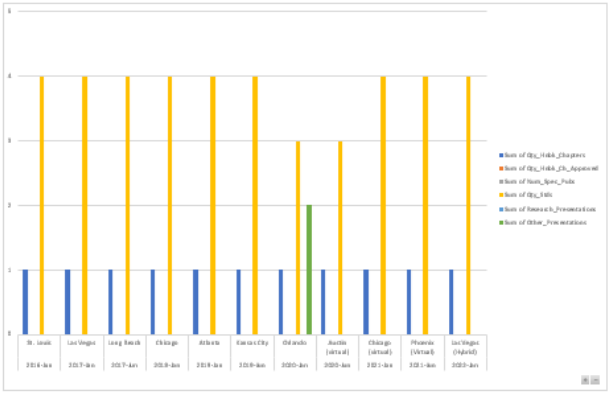


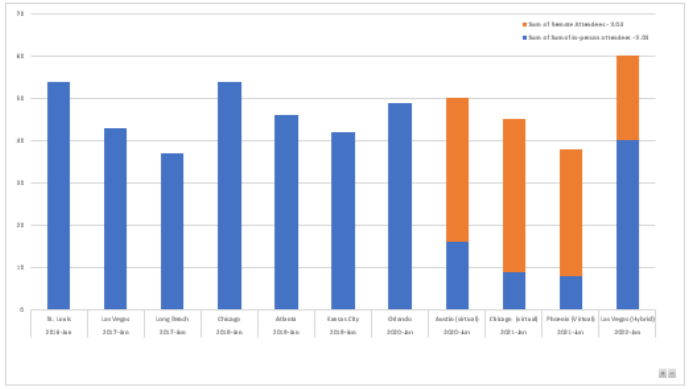


1. An example is shown below that breaks down activities for a particular TC









TC_Number	Conference	City	Minutes_Ontime	Agenda_Ontime	Chair_Attend	Vchair_Attend	Pchair_Attend	Hchair_Attend	Rchair_Attend	Quorum
3.04	2016-Jun	St.Louis	NO	NO	YES	YES	YES	0	0	YES
	2017-Jun	Las Vegas	YES	yes	NO	YES	YES	NO	No	YES
	2017-Jun	Long Beach	NO	NO	NO	YES	YES	NO	No	YES
	2018-Jun	Chicago	YES	yes	YES	no	YES	0	0	YES
	2019-Jun	Atlanta	YES	yes	YES	YES	No	YES	YES	YES
	2019-Jun	Kansas City	YES	yes	YES	no	YES	YES	YES	YES
	2020-Jun	Orlando	YES	yes	YES	YES	YES	YES	YES	YES
	2020-Jun	Austin (virtual)	YES	yes	YES	YES	YES	YES	YES	YES
	2021-Jun	Chicago (virtual)	YES	yes	YES	YES	YES	YES	YES	YES
	2021-Jun	Phoenix (Virtual)	YES	yes	YES	YES	YES	YES	YES	YES
	2022-Jun	Las Vegas (Hybrid)	YES	yes	YES	YES	YES	YES	YES	YES

Conclusions

- TAC is planning to continue work to make sure that the process changes recently made are implemented well
- Collecting and analyzing TC activity data will contribute to this effort
- Improvements such as the planned web based system for TC activity will help simplify the process and help reduce errors that are introduced during manual processing

MBO Submission to Planning Updated 6/26/2022

Council: Technology Council **Chair:** Larry Smith
Committee: Technical Activities Committee **Vice-chair:** Craig Messmer

MBO #	Description	Metric	Init #	Goal #	Completion % / Date	Financial Assist Req'd?	Comments/Activities supporting MBO	Strategic Plan Talley: Initiative #				Goal 1		Goal 2			Goal 3		
		(how do we determine success?)						1	2	3	4	a	b	a	b	c	a	b	c
1	Train the Trainer and engage the FG leadership	# training sessions conducted by TAC # get on the ladder responses from FG # successful June roster review process	8, 102, 102	4, 75, 75	90%	none	We expect a lot of the FG's, however, we need to expect MORE from the TAC section heads. TAC will be concentrating on "training the trainer" on section head best practices and engaging with the FG leadership. As engineers we are good managers and scientists, however, ASHRAE needs great leaders. TAC conduct approximately 6-hours of training since July 1, 2021 and has accomplished the task of section heads that are trained, equipped, empowered, and motivated to the most important and urgent tasks. A section head best practice has been developed as well as KPI's for the section head has beed established. The training is a continous process and is anticipaed never to end.			x				x					
2	Honest assesment for FG evaluation in January 2022	# evaluation forms returned	102	75	0%	none	The winter 2022 meeting will be the second time for the FG evaluation. TAC will be promoting an honest assessment of the FG and report the final FG vote which will then guide future FG training and organizational needs. The results will be reported at the 2022 summer conference The FG evaluation report completed in January 2022 has not been completed. The compiling of the data and dashboard display is anticipated prior to the winter meeting.			x				x				x	
3	Open channels of communications throughout ASHRAE with TAC	# of ASKTAC inquiries # of open mike events # of formal motions made to TAC	50, 10, 2	25, 5, 1	10%	none	Through various direct communications channels to TAC we will promote openness and transparency within TAC and the rest of the ASHRAE organization. We started communicating this prior to the summer 2021 meeting, however, we will continue broadcasting and report the feedback at the breakfast meetings. We have started a pilot program with CTTC to get FG involvement with the grass roots with no reportable success. We are attempting a "reguest for members" for TC 5.1 Fans to attach new members that are not manufacturers to balance the voting membership using the CTTC connection.			x	x			x			x		
4	Re-write TC MOP, TAC MOP, and TAC Reference Manual	% completion	100%	50%	100%	none	FG MOP was rewritten and approved with significant changes. A new MTG MOP was approved. BOTH the FG MOP (combines TC + TG + TRG into a single MOP) and a new MTG MOP have been approved by unanamous vote of TAC.			x								x		
5	New breakfast meeting format	customer satisfaction survey	100%	80%	90%	none	New meeting format was utilized again in Toronto. Focus on training to help make the TAC breakfast meeting more meaningful and relevant The breakfast meeting started exactly on-time, included 3 pre-recorded messages, 45-minutes of section head training, Q/A period, and ended approximately 45-minutes early. Anedotal feedback was positive.			x				x			x		
6	Align the FG's with the ASHRAE Strategic Plan with feedback from the FG's to modify and influenc the current and future Strategic Plans.	FG action plan	102	35	25%	none	This is the main goal of all of the above MBO's. The section heads are now trained and anedotal feedback that the FG chair is carrying the meesage to their committee. The conversation has started!			x				x				x	
								0	0	6	1	0	0	5	0	0	2	3	0

TOTALS

ASHRAE CELEBRATING 125 YEARS

TAC

Chairs Breakfast

June 2022 Toronto

Meeting will start promptly @ 7 AM

Please sit at assigned section table

ASHRAE CELEBRATING 125 YEARS

TAC

Chairs Breakfast

June 2022 Toronto

Larry Smith TAC Chair
Craig Messmer TAC Vice Chair
Jamie Bennett, TAC Training Coordinator (outgoing)
Kevin Mercer, TAC Training Coordinator (incoming)

Breakfast Session Program

- ❑ TAC Chair Larry Smith
- ❑ Tara Thomas—Distribute FG certificates
- ❑ Video: Chapter Technology Transfer Committee $(CT)^2$, Distinguished Lecturers, Tech Hour Speakers

https://public.3.basecamp.com/p/M92dfo3SG5B9qNxBW1Hk5UWL

- ❑ CEC presentation: Vikrant Aute
- ❑ Kevin Marple—Ventilation 2022 and ongoing involvement
- ❑ FG Leadership Training—Jamie Bennett & Kevin Mercer
- ❑ Questions

Functional Group Leadership Training

- ❑ Revised FG and MTG Manual of Procedures (MOP)
- ❑ Strategic planning www.ashrae.org/about/strategic-plan
- ❑ Think like a Leader presentations www.ashrae.org/tac
- ❑ Ask your Section Head or AskTAC@ashrae.net

Change Communication Character Changes to TC/TG/TRG/MTG MOP

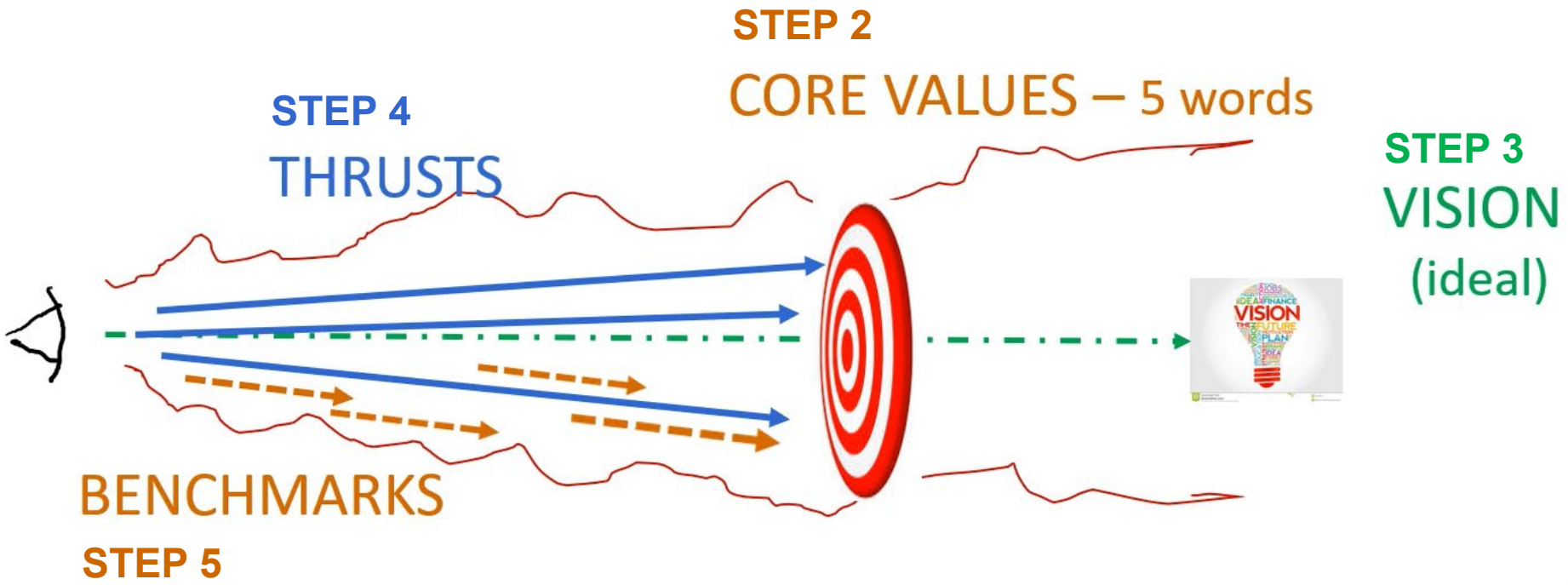
1. TC/TG/TRG/MTG now separated into FG MOP and MTG MOP
   - www.ashrae.org/tac
2. Changes to FG MOP
   A. Requires balance for voting membership and known financial interests in other entities. This was incorporated in June 2021. "…shall maintain a balance of Members in these stakeholder interest categories. No single stakeholder interest category shall constitute a majority…."
   B. Requires that the Chair, Vice-Chair, and all voting members are also members of ASHRAE
   C. Both balance and ASHRAE membership can be waived with your section heads approval
   D. Recommendation to conduct virtual meetings between the Annual and Winter meetings

Change Communication Character Changes to TC/TG/TRG/MTG MOP

3. MTG MOP re-imagines the MTG FG to be responsive to emerging problems
   A. Advancement of the arts and sciences of HVAC&R for the benefit of humanity
   B. ASHRAE Strategic Plan
   C. Proposed timeline for completion
   D. Along with a short list of expectations, the MTG organizational structure is left to the MTG leadership to suit the purpose for its formation.
   E. Effective 7/1/2022
   F. Section Head will reach out to existing MTGs to transition to the new MOP
   G. New MTG & FG MOP at www.ashrae.org/tac

What is a strategic plan?

STEP 1
CONVENE your group in a comfortable environment that supports creativity

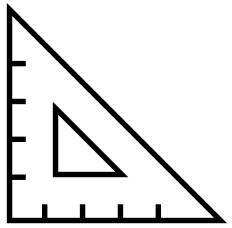
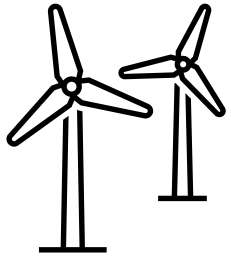


TAC Plan for 2022-23
Strategic plans are meant to be changed

- ❑ Mission – Help the Functional Groups operate with Excellence
- ❑ Vision – A positive and productive volunteer experience for all
- ❑ Values (Behavioral Boundaries) – Advocacy and Simplicity derived from…ASHRAE SP Values: Excellence, Integrity, Volunteerism, Diversity, Collaboration, and Commitment
- ❑ Thrusts or Themes – solidify gains, *i.e.* "finish what we started," address controversies, train FG leaders, improve processes

Strategic Plan for Your Functional Group

- The Society already has an SP
- Do FGs also need one? YES!
  - Its in the FG MOP
  - FGs provide technical excellence
  - Best positioned for IDEATION: “I wish that..” statements
    - Converge to consensus by combining similar IWTS
  - The who what where and when of benchmarks
  - FG SP should be in concert with the ASHRAE SP

Envision	Equip	Empower	Edify	Evaluate
				
Inspiration Why do you come here? Conscious process of free-thinking IDEATION	ASHRAE website Revised FG Manual of Procedures (MOP) Email Alias List	Take this information and lead The rest is up to you Do what works for your team!	Volunteerism Collaboration Keep it fun	Activity Form (V20-D6) FGEW, SHED What training do you need?

Training Resources

"I would like to have you highlight the training resources available from ASHRAE. There are great webinars ASHRAE has recorded that explain mysterious stuff like what kind of majority one needs. The second thing that is really critical is just understanding who does what, like scheduling meetings, and handbook responsibilities. We get a lot of emails and there are many names that go by when one is busy." --*TC Chair*

TAC Webpage

https://www.ashrae.org/communities/committees/standing-committees/technical-activities-committee

AskTAC@ashrae.net

"Learn your horn, then forget it" – Charlie Parker

Change Communication Character Succession Planning

- **Rostering voting members and FG leadership is crucial to succession plan implementation**

- **TC 5.3 "Get on the ladder!"**
- **Four-steps/eight-years**
  1. **Handbook Subcommittee Chair (2 years)**
  2. **Secretary (2 years)**
  3. **Vice Chair/Research Subcommittee Chair (2 years)**
  4. **Chair (2 years)**

Change Communication Character

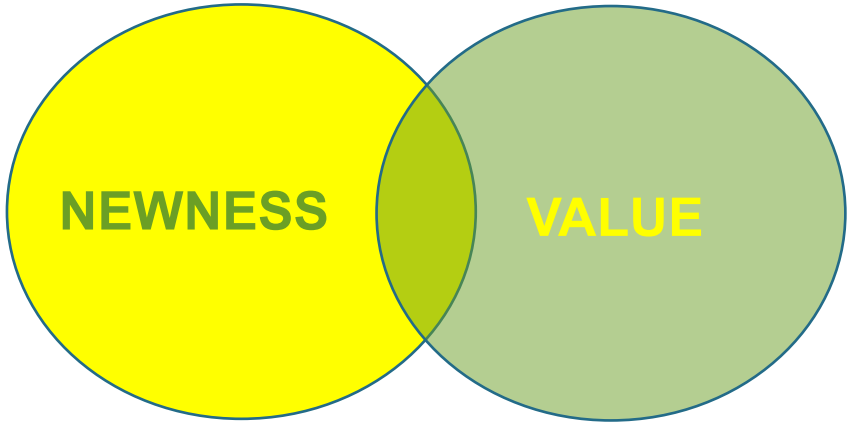
Rostering. Appendix B - Procedure for TC/TG/TRG Membership Update

- At least three weeks prior to the Society Winter Meeting, the Administrative Assistant for Technical Services sends each FG Chair and TAC Section Head a Roster Update link
- FG Chair reviews the Roster Update Webform, making changes and additions, and clicks SAVE (do not click SUBMIT)
- FG Chair notifies the appropriate TAC Section Head (no later than the Wednesday of the Winter Conference) that the proposed changes are completed
- Section Head reviews, approves and SUBMITS the Roster Update Webform or returns it to the FG Chair for corrections by February 15
- Section Head and FG Chair finalize and SH SUBMITS by February 25
- If no roster update is submitted, voting members rolling off will automatically be dropped off the roster
- Staff sends draft roster to Section Head for review against the approved Roster Update Webform
- Repeat until the Section Head has approved the draft roster
- The purpose of this procedure is to minimize Emergency Roster Actions
- All roster changes take effect at the close of the Annual Conference

Change Communication Character
TAC Advocacy and Simplicity

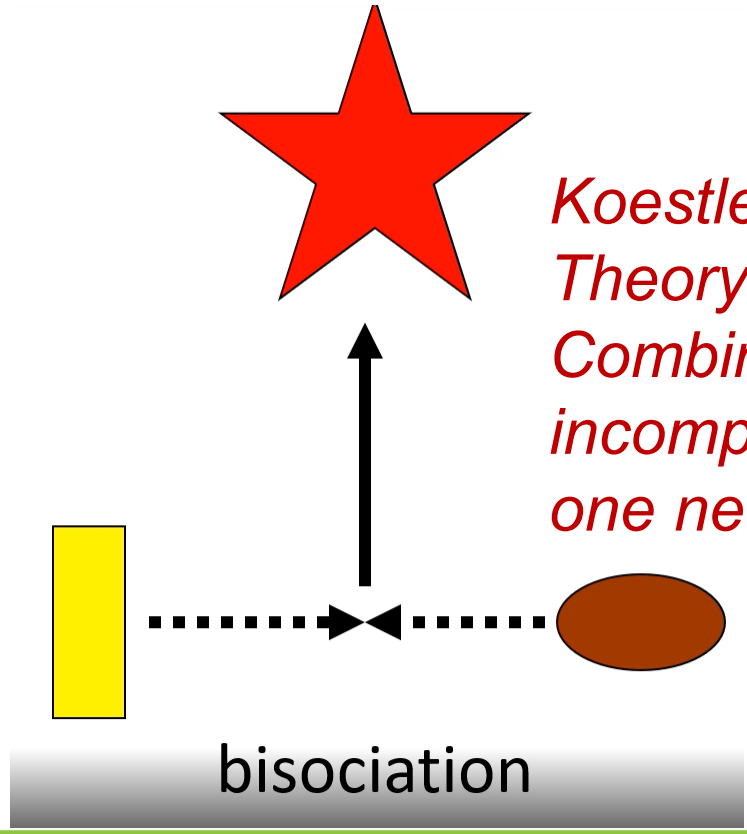
- ❑ Rostering—online forms for FG Simplicity
- ❑ Virtual meetings between conferences to maximize involvement and build momentum
- ❑ TAC is working to improve the HYBRID meeting experience
- ❑ Keeping channels open to address controversies, follow-up and resolve.
- ❑ Recent feedback from FGs—activity form contains information that ASHRAE already has.
- ❑ Please send suggestions for improvements to **asktac@ashrae.net**

Creativity Ideation Problem Solving Planning



If you act just a little bit foolish, and let yourself go, better ideas will come
– Charlie Parker

Planning is bringing the future into the present so that you can do something about it now
– Alan Lakein



Koestler's Bisociation Theory (1964)
Combining apparently incompatible things into one new and useful thing

Decision Making by Pairwise Comparison

Compare A and B; A looks better

Compare A and C; C looks better

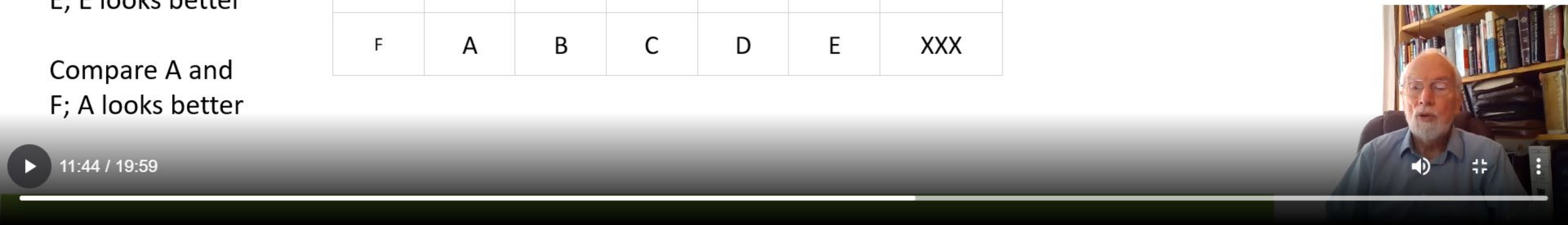
Compare A and D; D looks better

Compare A and E; E looks better

Compare A and F; A looks better

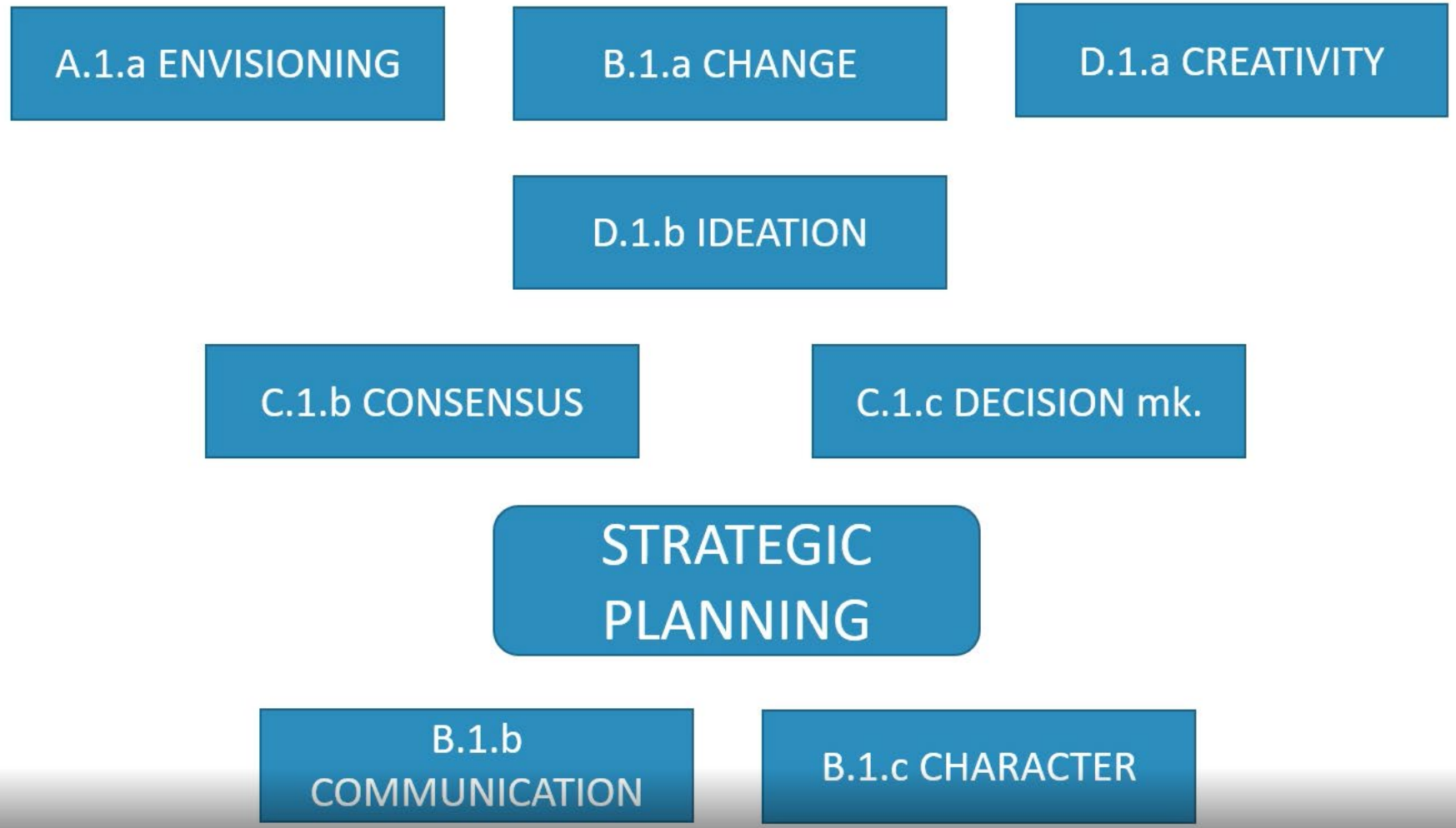
	A	B	C	D	E	F
A	XXX	XXX	XXX	XXX	XXX	XXX
B	A	XXX	XXX	XXX	XXX	XXX
C	C	C	XXX	XXX	XXX	XXX
D	D	D	D	XXX	XXX	XXX
E	E	E	C	D	XXX	XXX
F	A	B	C	D	E	XXX

A:2
B:1
C:4
D:5
E:3
F:0



Foundation

The foundation of Strategic Planning is the CHANGE WE NEED to advance the arts and sciences of HVAC and related fields



SEVEN ESSENTIAL - vg + 3 = 10 LEADERSHIP ROLES

VISIONARY

CHANGE AGENT

STRATEGIC PLANNER

SAFETY & SECURITY

DEVELOP LEADERS

BE A FOLLOWER

TEAM BUILDER

SERVANT

TEAM MANAGER

PROBLEM SOLVER

Announcements and Reminders for TC/TG/TRG & MTG Chairs
Virtual Winter Meeting 2022

A. NEW!

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

This will be an annual activity and FG 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

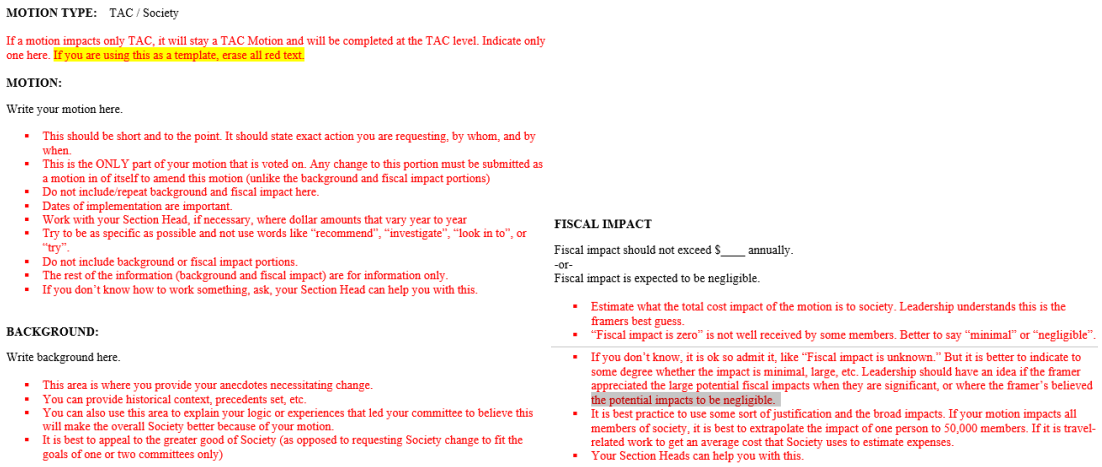
Technical Activities Committee (TAC) Open Mike Policy

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.
How:	It would be appreciated if you would send a written request to 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

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 and Basecamp:



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 so 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**
   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. Access to virtual committee meetings will available to all. The meeting access information is included in the program.

6. **Collaborative Meeting Space at ASHRAE Winter Meeting**
   - **TC Collaboration Area (**Caesars Palace, Octavius 4 or 11 (PS)
   - Available for your use
   - Sunday, Monday, Tuesday 7:30 AM – 4:00 PM,
   - Wednesday 7:30 AM – 1:00 PM
   - You are encouraged to use it for various TC functions – meetings that did not make the official schedule, ad hoc meetings, any other TC related activity

7. **Two new Functional Groups have been formed since last Meeting**
   - **TG2.RAST** (Reactive Air and Surface Treatment)
   - **MTG.RES** (Resilience)

8. **21-22 Roster Rollover**

   Remember, the current 2021-2022 roster for your TC, TG or MTG is in effect until after the Annual meeting later this year.

- At least three weeks prior to the Society Winter Meeting, the Administrative Assistant for Technical Services sends each FG Chair and TAC Section Head a Roster Update link
- FG Chair reviews the Roster Update Webform, making changes and additions, and clicks SAVE (do not click SUBMIT)
- FG Chair notifies the appropriate TAC Section Head (no later than the Wednesday of the Winter Conference) that the proposed changes are completed
- Section Head reviews, approves and SUBMITS the Roster Update Webform or returns it to the FG Chair for corrections by February 15
- Section Head and FG Chair finalize and SH SUBMITS by February 25
- If no roster update is submitted, voting members rolling off will automatically be dropped off the roster
- Staff sends draft roster to Section Head for review against the approved Roster Update Webform
- Repeat until the Section Head has approved the draft roster
- The purpose of this procedure is to minimize Emergency Roster Actions
- All roster changes take effect at the close of the Annual Conference

ASHRAE

TC Chairs should be working to revise and submit 2022-23 SY roster. There was a unique link sent to an online workbook for your particular TC to allow you to update membership and roster assignments.

9. 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), similar to the listing done for Standards.
- TC interim meetings should be posted (by emailing shammerling@ashrae.org) two weeks or more 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.
- 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.

10. 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).

Current documents include breakfast presentations, forms, etc. This can be used to send documents to your section head as well.

Send staff (shammerling@ashrae.org) an email if you need access.

11. TC Re-Org update

TAC has finished their work to re-organize TCs but TCs can continue to work towards effort of streamlining and improving efficiency.

For those TC's that wish 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 numerous TC mergers – 3.2 & 3.3, 8.10 & 8.12, 9.4 & 9.8, 7.3 & 7.8, 10.5 & 10.8 & 10.2 and 10.1 & 10.3. More (8.9 & 10.7) are in the works.

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

12. 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)

B. VIRTUAL WINTER MEETING

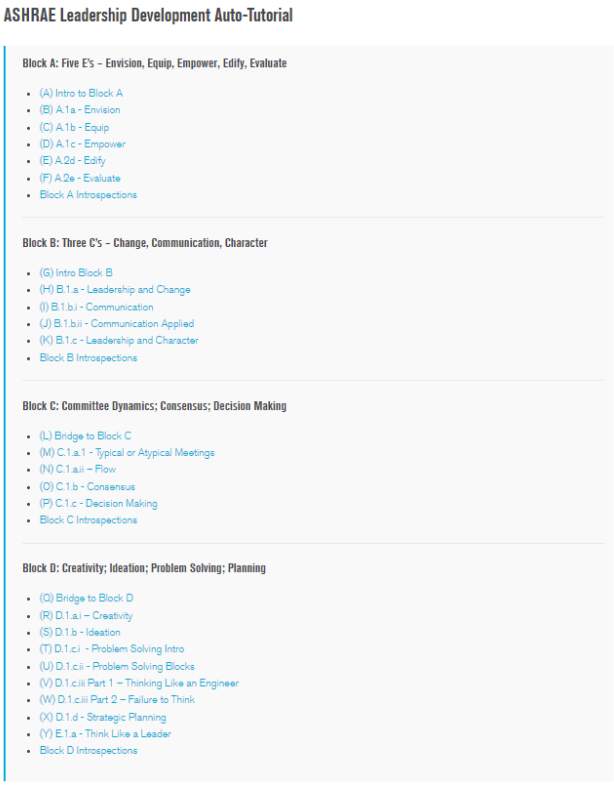
1. Free Wi-Fi Access at this Society meeting

Caesars Palace Wi-Fi Access: Network Name: **ASHRAE**, PWD: weareback!

2. Training Options

i. **TC/TG/TRG/MTG Chair's Training Topic**

A set of training blocks (ASHRAE Leadership Development Auto-Tutorial) related to leadership training are complete and posted at TAC website (www.ashrae.org/communities/committees/standing-committees/technical-activities-committee), TC website (www.ashrae.org/technical-resources/technical-committees), and TAC/TC basecamp (https://3.basecamp.com/3106353/projects/15520814):



ASHRAE Leadership Development Auto-Tutorial

Block A: Five E's – Envision, Equip, Empower, Edify, Evaluate

- (A) Intro to Block A
- (B) A.1a - Envision
- (C) A.1b - Equip
- (D) A.1c - Empower
- (E) A.2d - Edify
- (F) A.2e - Evaluate
- Block A Introspections

Block B: Three C's – Change, Communication, Character

- (G) Intro Block B
- (H) B.1.a - Leadership and Change
- (I) B.1.b.i - Communication
- (J) B.1.b.ii - Communication Applied
- (K) B.1.c - Leadership and Character
- Block B Introspections

Block C: Committee Dynamics; Consensus; Decision Making

- (L) Bridge to Block C
- (M) C.1.a.1 - Typical or Atypical Meetings
- (N) C.1.a.ii – Flow
- (O) C.1.b - Consensus
- (P) C.1.c - Decision Making
- Block C Introspections

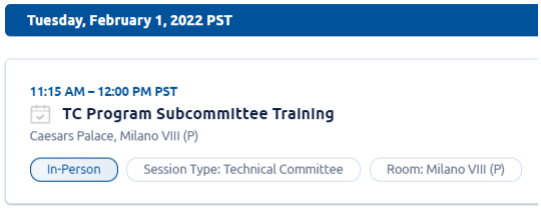
Block D: Creativity; Ideation; Problem Solving; Planning

- (Q) Bridge to Block D
- (R) D.1.a.i – Creativity
- (S) D.1.b - Ideation
- (T) D.1.c.i - Problem Solving Intro
- (U) D.1.c.ii - Problem Solving Blocks
- (V) D.1.c.iii Part 1 – Thinking Like an Engineer
- (W) D.1.c.iii Part 2 – Failure to Think
- (X) D.1.d - Strategic Planning
- (Y) E.1.a - Think Like a Leader
- Block D Introspections

TAC is exploring making PDH credits available. Part of training will be presented at TC Chair's Breakfast meeting.

TAC TC Breakfast presentations also posted at TAC website (www.ashrae.org/communities/committees/standing-committees/technical-activities-committee) and TAC/TC basecamp (https://3.basecamp.com/3106353/projects/15520814)

ii. **TC Program Subcommittee Chair Training**



Tuesday, February 1, 2022 PST

11:15 AM – 12:00 PM PST

TC Program Subcommittee Training

Caesars Palace, Milano VIII (P)

In-Person | Session Type: Technical Committee | Room: Milano VIII (P)

iii. **RAC's Research Subcommittee Chair's Breakfast**

6:30 AM – 9:15 AM PST

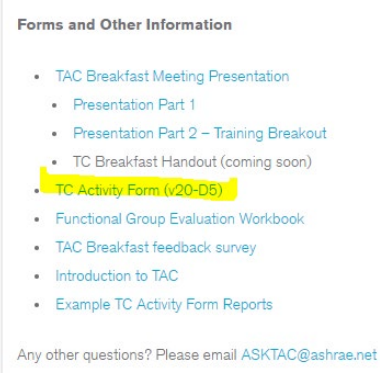
Research Subcommittee Chair's Breakfast

Caesars Palace, Palace I/II (E)

In-Person | Session Type: Technical Committee | Room: Palace I/II (E)

C. UPCOMING DEADLINES

1. **TC Activity Forms for the 2022 Winter Annual Meeting are due to Your Section Head <u>before Friday February 4, 2022</u>**
   TC/TG/TRG Activity Feedback Form (Excel) can downloaded from the TAC website (www.ashrae.org/communities/committees/standing-committees/technical-activities-committee):



   or /TC basecamp (https://3.basecamp.com/3106353/projects/15520814).

2. **ASHRAE is planning for face-to-face meeting in Toronto, ON, Canada, June 25 – 29, 2022. Seminar and Forum proposals are due by Thursday, February 17, 2022.** Please visit the following site to submit your proposal: For more information, go to: www.ashrae.org/conferences/2022-annual-conference-toronto. Here's the deadlines:

   Thursday, February 17, 2022: Extended Abstract Paper Due
   Thursday, February 17, 2022: Program (Seminar, Forum, Workshop, Debate and Panel) Proposals Due
   Friday, February 18, 2022: Conference and Technical Paper Final Accept/Reject Notifications
   Friday, March 18, 2022: Extended Abstracts Accept/Reject Notifications
   Friday, April 01, 2022: Debate, Panel, Seminar, Forum, Workshop Accept/Reject Notifications

3. **2021-2022 Hightower Award Nominations by Wednesday, September 1st**
   There were 4 nominations for this year's award. Thanks to all TCs that nominated! All that did not win are encouraged to resubmit.

   TAC wishes to encourage TCs to make nominations for the 2021-2022 *George B. Hightower Technical Achievement Award.* Nominations are due to Section Heads by September 1, 2022 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.

D. <u>REMINDERS</u>

1. **22-23 Roster Rollover**
   Remember, the current 2021-2022 roster for your TC, TG or MTG is in effect until <u>after</u> they meet for the ASHRAE Annual Conference. Rosters will roll over to 2022-2023 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

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.

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). 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:
   - 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.

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

    SY 21-22 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 1st. The 20-21 E-mail Alias list with these position aliases is posted on the ASHRAE website www.ashrae.org/TCs under the heading *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs*.

14. **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 under the heading *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs*.

15. **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 www.ashrae.org/TCs under the headings *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs – Routine Forms for TC/TG/MTGs/TRGs*.

16. **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 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.

17. **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: (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 2023 meeting conferences as well as topics for specialty conferences from TC members.

   Please submit your suggestions to ASHRAE Staff member Tony Giometti (Giometti@ashrae.org). You can also add your track suggestion in the "Comment" section of the TC Activity form for the Toronto or Atlanta meetings.

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**.**

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 or 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. **Las Vegas Winter – Jan. 29 – Feb. 2, 2022**
   Conference Website: 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

2. Toronto Annual– Jun 25-29, 2022

Conference Website: www.ashrae.org/conferences/2022-annual-conference-toronto

Program Focus at Toronto Annual Conference

i. **Track 1 Fundamentals and Applications:** Fundamentals are the foundation for understanding applications in engineering. Key components of ASHRAE fundamentals include thermodynamics, psychometrics, fluid and mass flow. This track provides opportunities for papers and presentations of varying levels across a large topic base. Concepts, design elements and shared experiences for theoretical and applied concepts of HVAC&R design are included.
Track Chair: Erik D Sanchez esanchez@prmech.com

ii. **Track 2 HVAC&R Systems and Equipment:** HVAC&R systems and equipment are constantly evolving to address the changing requirements of the built environment. Papers and programs in this track focus on the development of new systems and equipment, improvements to existing systems and equipment and the proper application and operation of systems and equipment.
Track Chair: Marites Calad mcalad@norman-wright.com

iii. **Track 3 Research Summit:** Active research, and the exchange of those research findings, are critical to the development of our HVAC&R industry and built environment. The 9th annual research summit invites researchers to share those results, including ASHRAE-sponsored research and research of interest to the ASHRAE community. Researchers are invited to present papers, extended abstracts, seminars, forums or participate in panel discussions. The Research Summit includes a partnership with ASHRAE's archival journal, Science and Technology for the Built Environment.
Track Chair: Brian Fronk brian.fronk@oregonstate.edu

iv. **Track 4 Connected Buildings, Connected Communities:** As buildings become smarter, and as sensor systems, internet connectivity and data collection become more ubiquitous, there are substantial opportunities to improve the performance and efficiency of buildings. Similarly, as renewable energy resources, including wind and solar energy and energy storage, becoming increasingly common, buildings can be used as electric grid assets, to strategically support energy efficiency and demand flexibility. To accomplish this requires many stakeholders, coordinated efforts and a diversity of buildings and buildings systems components and controls.
Track Chair: Ahmed Abdel Salam ahmed.abdel-salam@usask.ca

v. **Track 5 Cold Climate Building System Design, Operation and Resilience:** The design, construction and operation of buildings in cold climate regions which experience extreme winter conditions require specific considerations for the building envelope and HVAC&R

systems and resulting thermal and hygrothermal performance. Resilience in the face of extreme temperature shifts, and in some cases remoteness and permafrost, should be considered to ensure building maintain interior design conditions. This track covers efforts and topics specifically focused on buildings, building systems and equipment in cold, arctic and subarctic climates.
Track Chair: Davide Ziviani dziviani@purdue.edu

vi. **Track 6 IAQ, Energy Use, Comfort and Health of Sustainable Buildings:** Indoor environmental quality, energy use and efficiency and occupant comfort and health are all priorities buildings must balance. Sustainability priorities in buildings continue to increase, requiring careful consideration of how to achieve sustainability goals without sacrificing other building functions and owner/operator priorities. This track covers each of these topics, and how they interact and impact one another.
Track Chair: Rafi Karim rkarim@aeieng.com

vii. **Track 7 Professional Development and Education:** As members of a professional organization, we not only participate for the great value of technical exchange, but also the interpersonal exchange. We recognize that the single greatest strength of our organization is its membership. This track is designed to allow those professionals and educators an opportunity to develop and share knowledge in the areas of presentation skills, leadership, team-building, understanding various business operations, lean collaboration strategies, interpersonal skills, etc., and an opportunity for educators to share knowledge in the teaching and education of current and future generations of professionals. Submissions to this track may lend themselves to interactive session types such as workshops, panels and forums.
Track Chair: Maggie Moninski maggie.moninski@gmail.com

viii. **Track 8 Buildings in the Aftermath of COVID-19:** The pandemic has had significant impacts on how buildings are used, and the priorities associated with building operations to ensure a healthy environment for occupants. More people are working remotely; commercial building interior design and functionality and occupant use of these buildings, ventilation and system needs and building owner, operator and occupant priorities have been impacted. This track covers these topics as our buildings transition to design and operation in the aftermath of the pandemic.
Track Chair: Andy Cochrane acochrane@industrialairinc.com

G. OTHER UPCOMING WORKSHOPS, CONFERENCES AND EVENTS

1. 2022

1. IAQ 2020: Indoor Environmental Quality Performance Approaches: Transitioning from IAQ to IEQ – May 4-5, 2022 – Athens, Greece - www.ashrae.org/iaq2020

2. ASHRAE Winter Meeting, January 31 – Feb. 2, 2022 Las Vegas, NV - www.ashrae.org/conferences/2022-winter-conference-las-vegas

3. Ventilation 2022: 13th International Industrial Ventilation Conference for Contaminant Control, June 22-24, 2022 Toronto, Canada - www.ashrae.org/conferences/topical-conferences/ventilation-2022

4. 2022 Building Performance and Analysis Conference and SimBuild Co-organized by ASHRAE and IBPSA-USA. Sept. 14-16, 2022. Chicago, IL. www.ashrae.org/buildperform2022.

5. The Fifth International Conference on Efficient Building Design – Materials and HVAC Equipment Technologies. Oct. 20-21, 2022. Beirut, Lebanon. www.ashrae.org/beirut2022.

6. Buildings XV Conference: Dec. 5-8, 2022. Clearwater FL. www.ashrae.org/buildingsXV.

2. 2023

1. ASHRAE and SCANVAC – HVAC Cold Climate Conference 2023. March 6-8, 2023. Anchorage AK. www.ashrae.org/2023HVACColdClimate

2. 14th IEA Heat Pump Conference – Resilient and Efficient. May 15-18, 2023. Chicago IL. www.hpc2023.org

Publications Committee
Information for TC/TG/MTG Chairs

Publications Committee Scope

The following are ASHRAE publication types that fall under the scope of Publications Committee, with information on how to submit proposals or contact ASHRAE staff with questions:

Publication Type	How to Submit Proposals	ASHRAE Staff Contact
ASHRAE Journal articles (technical, for practicing engineers)	www.ashrae.org/technical-resources/ashrae-journal/submission-guidelines-for-ashrae-journal	*ASHRAE Journal* Managing Editor, Mary Kate McGowan, MMcGowan@ashrae.org
Books	**Individual authors, authoring groups, and TC/TG/MTG volunteer efforts:** http://cms.ashrae.biz/forms/pubplan/index.php **TC/TG/MTG paid efforts:** Use the Publication Topic Acceptance Request template available at https://www.ashrae.org/technical-resources/research	Special Publications Editor, Cindy Michaels, cmichaels@ashrae.org
Articles for *Insights*, *HVAC&R Industry News*, and *ASHRAE Journal Newsletter*	Contact *ASHRAE Journal* Managing Editor, Mary Kate McGowan, MMcGowan@ashrae.org	*ASHRAE Journal* Managing Editor, Mary Kate McGowan, MMcGowan@ashrae.org
CDs/DVDs/Software/ Online databases	http://cms.ashrae.biz/forms/pubplan/index.php	Special Publications Editor, Cindy Michaels, cmichaels@ashrae.org
Apps	https://xp20.ashrae.org/secure/special_pubs/app_propose/	Special Publications Editor, Cindy Michaels, cmichaels@ashrae.org

Your Publications Committee TAC Section Liaison will establish contact with you via email. The Publications Committee Chair can be reached at pubchair@ashrae.net.

The Publications Committee can help your vision become a reality!

Tools to Assist You in Writing Content

- **ASHRAE Terminology** (www.ashrae.org/ASHRAETerms)
  Ensure consistency using this free online glossary of more than 3700 terms related to the built environment.
- **ASHRAE Authoring Portal** (https://authoring.ashrae.org/)
  Collaborate with coauthors using this secure platform for copyrighted intellectual property.
- **ASHRAE Technology Portal** (www.ashrae.org/technologyportal)
  Find published source material in downloadable PDF format.
  - Current volumes of ASHRAE Handbook (free to members!)
  - ASHRAE Journal articles (free to members!)
  - ASHRAE Research Reports (free to members!)
  - ASHRAE Technical and Conference Papers (available by subscription)
  - ASHRAE Conference Seminars (available by subscription)
- **Authoring Tools** (www.ashrae.org/technical-resources/authoring-tools)
  - Links for learning about writing for various ASHRAE Publications
  - Interactive Authors' Manual for Books and Papers
  - ASHRAE SI Guide for HVAC&R
- **Free Resources** (www.ashrae.org/freeresources)
  Obtain resources available freely to the public as well as resources available to Members only.
- **Latest Publications** (www.ashrae.org/bookstore)
  Learn more about ASHRAE's most recent publications.
- **Upcoming Publications** (www.ashrae.org/technical-resources/bookstore/upcoming-ashrae-publications)
  See what publications are in the works at ASHRAE.

ABOUT IEA HPT TCP

The International Energy Agency Technology Collaboration Programme on Heat Pumping Technologies is a nonprofit organization working in the field of heat-pumping technologies. The IEA HPT TPC is composed of 17 member countries and an executive committee leads a strategy to accelerate heat pump use in all applications that can reduce energy consumption and increase the use of renewable energy. The IEA HPT TPC has staged the IEA Heat Pump Conference every three years since its founding in 1978.

Chairman for HPT TCP is Mr. Stephan Renz (Switzerland).
E-mail: info@renzconsulting.ch
Read more about IEA HPT TCP at our website
www.heatpumpingtechnologies.org

CONFERENCE ORGANIZATION

The conference is organized by the International Organizing Committee (IOC), the Scientific Committee (SC) and the National Organizing Committee (NOC) on behalf of the Executive Committee of the IEA HPT TCP.

NATIONAL ORGANIZING COMMITTEE (NOC)

Karim Amrane, KA Consulting Services, LLC
Zahid Ayub, Isotherm, Inc.
Kunal Bansal, Heatcraft Worldwide Refrigeration
Van Baxter, Oak Ridge National Laboratory
Roy R. Crawford, Johnson Controls
Lorenzo Cremaschi, Auburn University
Piotr Domanski, NIST
Ron Domitrovic, Electric Power Research Institute (EPRI)
Daniel Ellis, Comfortworks, Inc.
Kyle Gluesenkamp, Oak Ridge National Laboratory
Eckhard Groll, Purdue University
Brian Fricke, chair NOC, Oak Ridge National Laboratory
Glenn Hourahan, Hourahan Consulting, LLC
Joshua Hughes, Chemours
Ajay Iyengar, Lennox International, Inc.
Konstantinos Kontomaris, Chemours
Wayne Kraft, Trane Technologies
Melissa Lapsa, Oak Ridge National Laboratory
Kashif Nawaz, Oak Ridge National Laboratory
Reinhard Radermacher, University of Maryland
Wayne Reedy, Carrier (retired)
Jeff Spitler, Oklahoma State University
Michael Vaughn, ASHRAE
Ed Vineyard, U.S. Department of Energy
Xudong Wang, Air-Conditioning, Heating, and Refrigeration Institute (AHRI)

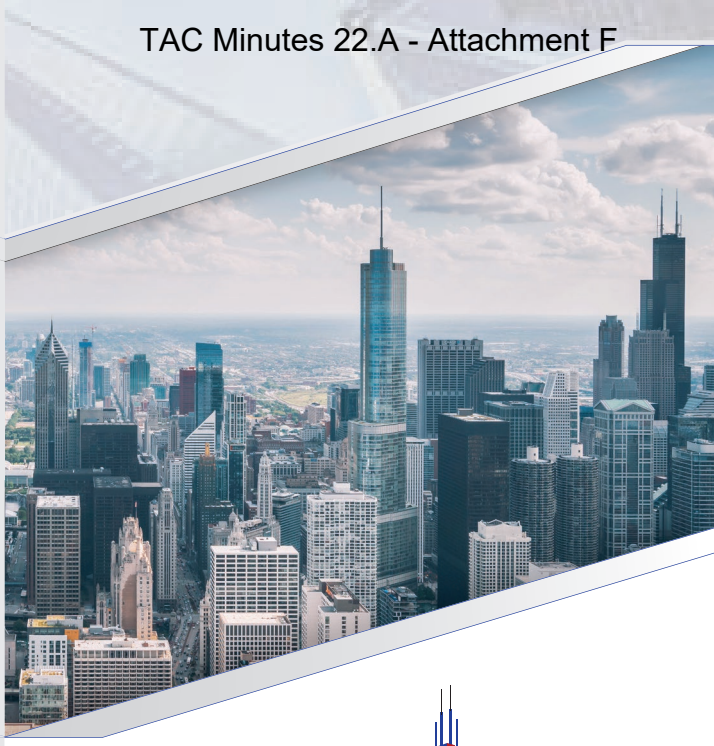
INTERNATIONAL ORGANIZING COMMITTEE (IOC)

Thomas Fleckl, IOC Chair
Sophie Hosatte, IOC Vice-Chair
Minsung Kim, IOC Vice-Chair
TBD, chair Scientific Committee (SC)
Regional Coordinators (RC) from America, Asia, and Europe (TBD)
Other IOC members (TBD)

HEAT PUMP CONFERENCE SECRETARIAT

Oak Ridge National Laboratory Conference Office
Judy R. Potok; potokjr@ornl.gov
Laurie Arnish; arnishlm@ornl.gov

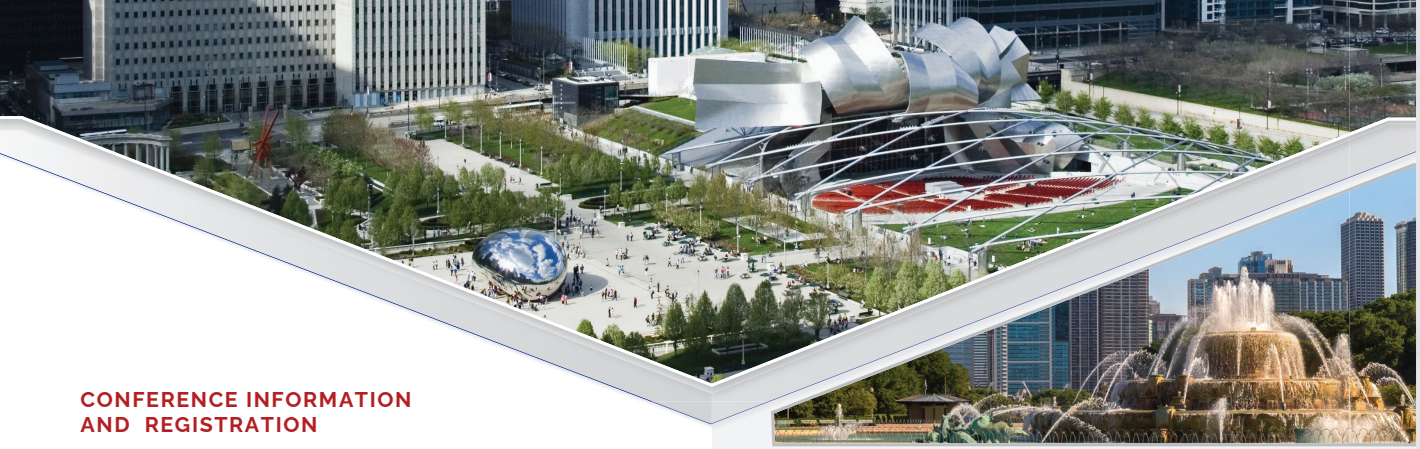
14th IEA HEAT PUMP CONFERENCE



14th IEA HEAT PUMP CONFERENCE

RESILIENT AND EFFICIENT

RENAISSANCE CHICAGO DOWNTOWN HOTEL
MAY 15—18, 2023, CHICAGO, IL



CONFERENCE INFORMATION AND REGISTRATION

14th EA Heat Pump Conference
Renaissance Chicago Downtown Hotel
May 15–18, 2023, Chicago, IL

Visit the conference website (www.hpc2023.org) for information, including registration and hotel accommodation forms.

CONFERENCE THEME

The conference theme is "*Heat Pumps—Resilient and Efficient*." Clean, efficient, and reliable energy systems are essential to meeting basic needs for comfortable, secure, and environmentally friendly building environments; food processing, transport, and storage; and industrial processes. Many analysts estimate that it will not be possible to achieve long-term climate, security, and energy goals without increasing the use of renewable heating and cooling hand in hand with large scale refurbishment and renovation of the world's existing buildings and industrial infrastructure. Heat pumps driven with renewable power sources are the key technical solution for these challenges.

CONFERENCE GOALS

The goal of the conference is to serve as a forum to discuss the latest heat pumping technologies and applications and to exchange knowledge in research, market, policy, and standards information on related technologies. Exhibitions will be held at the conference to share products and technologies.

CONFERENCE VENUE

The Renaissance Chicago Downtown Hotel is excited to welcome the 14th IEA Heat Pump Conference, "Resilient and Efficient," May 18-23, 2023. Located in the prime area of the Theater District provides attendees with easy access to Chicago's vibrant cultural infrastructure, including a wide variety of traditional pubs, eclectic bars, and clubs. Chicago is also home to a wide variety of restaurants satisfying most any palate. The Chicago O'Hare International Airport (ORD) and Midway International Airport (MDW) are international and domestic arrival hubs offering light rail service to downtown, as well as taxis and rideshare services.

CONFERENCE PROGRAM HIGHLIGHTS

The conference starts on Monday with a series of workshops on international collaborative projects (annexes) within the IEA HPT TCP and other related topics. Highlights include

- High-level invited speakers for the opening plenary sessions
- High-level invited keynote speakers leading each major conference oral technical session
- A poster session associated with each oral technical session
- Exhibition of equipment and information kiosks
- Technical visits
- Social and sightseeing program

The oral and poster technical sessions will include topics related to heat pumps, including but not limited to the following:

- Residential and commercial building comfort conditioning, focusing on topics such as: space heating, air-conditioning, net zero buildings, renovation, hybrids, domestic hot water, multifamily buildings;
- Nonresidential applications, focusing on industrial heat pumps, waste heat, district heating, commercial refrigeration, transport air conditioning and refrigeration;
- Innovation and R&D, focusing on ground sources, advanced storage systems, working fluids, sorption technologies, advanced vapor compression, non-vapor compression technologies, smart grids/energy, cold and hot climate applications, advanced air conditioning technologies, gas driven heat pumps and combination with other renewable technologies; and
- Policy topics and market status, trends, strategies, and future opportunities.

WHO SHOULD ATTEND?

- Policy makers, government officials, energy efficiency program leaders
- Executives and representatives from industry, utilities, and the public sector
- Manufacturers, distributors, and technology supporters.
- Designers and developers of heat pump systems and components
- Researchers from industry, utilities, academia, and private and public R&D institutes

CALL FOR PAPERS

Abstracts (250 words maximum) may be submitted on the conference web site beginning November 15, 2021. The abstracts will be screened, and authors will be advised of acceptance.

Deadlines

- November 15, 2021: Abstract submission open
- May 15, 2022: Abstracts due
- June 15, 2022: Authors advised of acceptance
- November 15, 2022: Full paper submission due
- February 15, 2023: Final paper submission due

Please get your breakfast and find a seat

We will start PROMPTLY at 7 am
and finish by 9 am

1

TAC Breakfast Meeting
January 2022

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

Larry Smith, PE - Chair
Craig Messmer, PE - Vice Chair

2

OBJECTIVES

1. Introduction and review today's objectives
2. Code of Ethics and ASHRAE Policies
3. Ground Rules
4. Announcements
5. Tip of the Spear
6. VISION 2022
7. Strategic Plan
8. Success Stories (pre-recorded)
9. Liaison Highlights (pre-recorded)
10. Think Like a Leader (pre-recorded)
11. Section Talk (40-minutes)
12. Open Mike (20-minutes)

Part A (1-hour)

Part B (1-hour)

3

Code of Ethics & 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." lxxtw33{{{2ewlvei2svk3efsyx3kszivrergi3gshi1sj1ixlmgw

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.

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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.

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View ASHRAE Governing Documents at ashrae.org/about/governance

4

ANNOUNCEMENTS

1. ASKTAC@ASHRAE.net
2. Open Mike Policy
3. Submit a motion to TAC
4. TAC has conducted seven (7) 1-hour virtual meetings since July 2021
5. TAC has reduced their meeting time during the winter conference by 50%
6. TAC has conducted five (6) Section head training sessions since June 2021 in preparation for the Winter Conference
7. TAC has made significant changes to the TC MOP to avoid any perceived conflicts of interest
8. TAC, under the leadership of Victor Goldschmidt, has completed a 10-hour, 4-segment, ASHRAE Leadership Development Auto-Tutorial
9. Electronic Roster, Activity Form, and FG Evaluation are in the budgeting process! (located on TAC website)
10. Special Covid Protocols

5

YOU are the Tip of the Spear!

Standards		
Active	131	
Under development	15	
Guidelines		
Published	29	
Under development	8	
Handbook Chapters	209	
Research Projects		
Total Projects	918	since 1960
Current Projects	50	
$$'s Spent	$77,008,000	not adjusted for inflation
Program Presentations (Annual)	660	
Publications		
Last 5-years	228	
Under Development	75	

6

VISION 2022 - Breakdown Silos - Challenges

Standards	RBC
Research	EHC
Handbook	PubED
Programs	Members Council
CTTC	CEC
TAC	YEA

- Request silos to join the conversation at TAC to establish proactive communications on how TAC can assist and facilitate a transformative change
- The FG's are the recognized ASHRAE experts and therefore will be consulted to review ASHRAE Journal articles prior to publication
- TAC Chair will work with the CTTC to determine how TAC can open lines of communication with the grass roots members

7

VISION 2022 - What is the most important & urgent action TAC can take?

2.428.004 STRATEGIC PLAN (09-06-21-12C)
This committee shall develop procedures for recommending updates to the strategic plan on a continuous basis. As a minimum the committee shall submit a report to the council prior to the Annual Meeting. The report includes the current status of each activity which supports the fulfillment of the committee's assignments under the strategic plan. The committee shall report to the council all recommendations for changes to the strategic plan as provided by the committee's constituents prior to the Annual Meeting.

2.428.004 STRATEGIC PLAN
Align the FGs' MBOs with ASHRAE's Strategic Plan and make recommendations to the BOD for changes to the plan

The Society Planning Committee, which monitors and updates the Strategic Plan, is currently working on a mid-term update, to the Plan, to be rolled-out in Las Vegas. Now would be a great time to provide comments/ recommendations.

8

What is the Strategic Plan?

1. Being an essential knowledge resource for a sustainable, high-performance built environment
2. Maximizing, member value and engagement
3. Optimizing ASHRAE's organization structure to maximize performance

9

Success Stories

1. TC5.2 Duct Design – Marketing Membership
2. TC2.6 Sound and Vibration – monthly virtual meetings
3. Herman & Dorthy Behl's Endowment Fund
4. TGR2.RAST (Reactive Air and Surface Treatment)
5. MTG-RES (Resiliency)
6. TC5.3 Air Distribution - Get on the Ladder
7. ISI (International Standards Interaction)
8. RAC (Research Administration Committee)
9. TFBD (Decarb Task Force)
10. RBC (Residential Building Committee)
11. GAC (Government Affairs Committee)

10

TC5.2 (Duct Design) Marketing Success!

11

TC2.6 Sound and Vibration (Monthly Meeting)

12

TC5.2 Herman & Dorthy Behl's Endowment Fund

13

Newly constituted TG2.RAST (Reactive Air and Surface Treatment)

14

MTG.RES (Resilience)

15

TC 5.3

16

ISI (International Standards Interaction Task Force)

ASHRAE's Role in the Globalization of Standards

The International Standards Interaction Task Force

Craig Messmer
Las Vegas (W22)
1/26/22

17

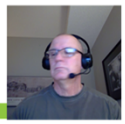
Research Administration Committee (RAC) Speaks!

18

TFBD (Task Force Building Decarbonization)

Formation of the Task Force for Building Decarbonization (TFBD)

Realization that our successful **initiatives in building energy efficiency** should be **expanded to building decarbonization**



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A few words from the RBC (Residential Building Committee)

TAC

TC Chair / Vice-Chair Breakfast

Winter Meeting 2022

Las Vegas

Residential Buildings Committee (RBC)

Rick Karg, Chair

20

The Government Affairs Committee

NEEDS

Y ASHRAE U

The Government Affairs Committee (GAC) organizes ASHRAE members at the state and local grassroots levels to educate government bodies and officials in areas of interest to ASHRAE members. In SY 20-21, 304 members participated in 75 events. Thus far in SY 21-22, 31 events have taken place.

The purpose of these activities is to benefit the public by providing responsible and balanced input and advice to policymakers in our area of expertise.

The technical expertise of ASHRAE is concentrated in its Technical Committees, Task Groups, Technical Resource Groups, and Multidisciplinary Task Group.

The GAC invites members of ASHRAE's technical groups to extend their participation to the chapter level where many relevant policy decisions are made. Please consider:

- Chairing or becoming a member of your local chapter's GAC
- Liaising with GAC to share technical developments that could be of interest to policy makers
- Participate in meetings of:
  - state or municipal construction codes boards
  - state affiliates of the Association of School Business Officials
- Joining local planning commissions or similar bodies

For more information on the Government Affair Committee, contact us at GovAffairs@ashrae.org.

We're waiting to hear from YOU!

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Think Like a Leader

ASHRAE CELEBRATING 125 YEARS

Leadership:

Fully Empowered for the Advance

E.1.a "Think Like a Leader"

Created by - Victor Goldschmidt, PhD

Professor Emeritus Purdue University School of Mechanical Engineering, past ASHRAE Director-at-Large, ASHRAE Exceptional Service Award recipient, ASHRAE Fellow, and trained as a Synectics (special brainstorming) facilitator

ASHRAE

22

TAC

Chairs Breakfast Training

Section Breakout Session

January 2022

Jamie Bennett, TAC Training Coordinator
Kevin Mercer, Section 8 Head

1

Breakfast Session Goals

- ❑ Get to know each other
- ❑ Explain the Section Head role as TAC liaison, advocate and guide for FG's
- ❑ Review FG operations
- ❑ Empower FG leadership
- ❑ Answer questions

2

Dave Meredith
Section Head
TAC Section 1– Fundamentals and General

3

Session Outline

1. Special reminders for Las Vegas and COVID
   2022 ASHRAE Winter Conference | ashrae.org click on “Health and Safety”
2. “Get on the ladder”– succession planning
3. Maintaining balance– changes to TC MOP
4. Roster update process– Appendix B of TC MOP
5. Strategic Plan– each FG appoints a liaison to MTG.RES
6. Strategic Plan– alignment and tracking of FG MBO’s
7. FG evaluation, Activity form, vote to continue, merge or disband
8. *(optional)* FG meeting template

4

Vance Payne

Section Head

TAC Section 4– Load Calculations and Energy Requirements

5

Succession Planning

- **Rostering for voting members and FG leadership is crucial to succession plan implementation**

- **TC 5.3 "Get on the ladder!"**

Four-step ladder / eight-year period

1. **Handbook Subcommittee Chair (2 years)**
2. **Secretary (2 years)**
3. **Vice Chair/Research Subcommittee Chair (2 years)**
4. **Chair (2 years)**

6

Kevin Marple
Section Head
TAC Section 5– Ventilation and Air Distribution

7

Maintaining Balance– changes to TC MOP (approved by TAC)

1.4.2 Committee Voting Membership shall be comprised of individuals:

New section 1.4.2.2

1.4.2.2 Who represent a stakeholder interest category of the industry such as users, contractors, product manufacturers, academics, consulting engineers, government agencies, independent sales representatives, trade organizations and research organizations. The Committee Chair shall develop a list of relevant stakeholder interest categories for approval in accordance with section 2.4.4, 3.2.4 and Appendix B and shall maintain a balance of Members in these stakeholder interest categories. No single stakeholder interest category shall constitute a majority of the Voting Members of a Committee. TAC Chair approval is required when achieving balance is not possible.

Old section 1.4.2.2

1.4.2.2 Who represent segments of the industry such as users, contractors, product manufacturers, academicians, consulting engineers, and research organizations. The committee chair should work to develop and maintain a balance of these interests, but in some situations a balance may not be possible, therefore, this is not a formal requirement.

8

Brad Cochran
Section Head
TAC Section 9– Building Applications

9

Rostering. Appendix B - Procedure for TC/TG/TRG Membership Update

- At least three weeks prior to the Society Winter Meeting, the Administrative Assistant for Technical Services sends each FG Chair and TAC Section Head a Roster Update link
- FG Chair reviews the Roster Update Webform, making changes and additions, and clicks SAVE (do not click SUBMIT)
- FG Chair notifies the appropriate TAC Section Head (no later than the Wednesday of the Winter Conference) that the proposed changes are completed
- Section Head reviews, approves and SUBMITS the Roster Update Webform or returns it to the FG Chair for corrections by February 15
- Section Head and FG Chair finalize and SH SUBMITS by February 25
- If no roster update is submitted, voting members rolling off will automatically be dropped off the roster
- Staff sends draft roster to Section Head for review against the approved Roster Update Webform
- Repeat until the Section Head has approved the draft roster
- The purpose of this procedure is to minimize Emergency Roster Actions
- All roster changes take effect at the close of the Annual Conference

10

Kevin Mercer
Section Head
TAC Section 8– Air-conditioning and Refrigeration System Components

11

Strategic Plan Alignment– MBO's

- ❑ MBO– Management by Objective
- ❑ Download MBO Template Worksheet from Basecamp: TAC Sections & TC Leadership
  MBO template for Strategic Plan alignment.xlsx (basecamp.com)

MBO Submission to Planning

Council: TAC through SH4 **Chair:**

Committee: name of your FG **Vice-chair:**

MBO #	Description	Metric	Initiative #	Goal #	Completion % /Date	Financial Assist Req'd?
		(how do we determine success?)				
1	Formalize TC continuation procedures (no assumptions)	Procedures formalized	3	3a, 3b	On-going	No
2	Establish solid basics/functional training (including virtual meeting basics)	Number of training blocks developed	3	2c, 3a, 3b	On-going	No
3	Automate TC reporting (e.g., activity form and Section Head data rollup)	Web Tool specification created Web Tool developed	3	3a, 3b	On-going	Yes
4	Formalize TC best practices	Best Practices finalized and documented	3	3a, 3b	On-going	No
5	Improve time/resources at in-person meetings (breakfast and training sessions in particular)	Improved breakfast format finalized	3	3a, 3b	On-going	No
6	Establish effective and modern leadership training	Number of training blocks developed	3	2a, 3a, 3b	On-going	No

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FG Operations

- Section Heads are answerable for everything the FG's do or don't do, with the consent of the TAC Chair
- Required reporting: Activities->Upcoming dates (basecamp.com)
  - Docs & Files (basecamp.com) TAC Sections & TC Leadership->Docs & Files
  - FGEW, Activity Form (Hybrid meetings: count "Present" & "Remote")
- Meeting agenda template (*.docx)
  - TAC Sections & TC Leadership-> FG Main Meeting Agenda Template.docx (basecamp.com)
  - *All forms available on ASHRAE website:* Technical Activities Committee (ashrae.org) Technical Activities Committee (ashrae.org)

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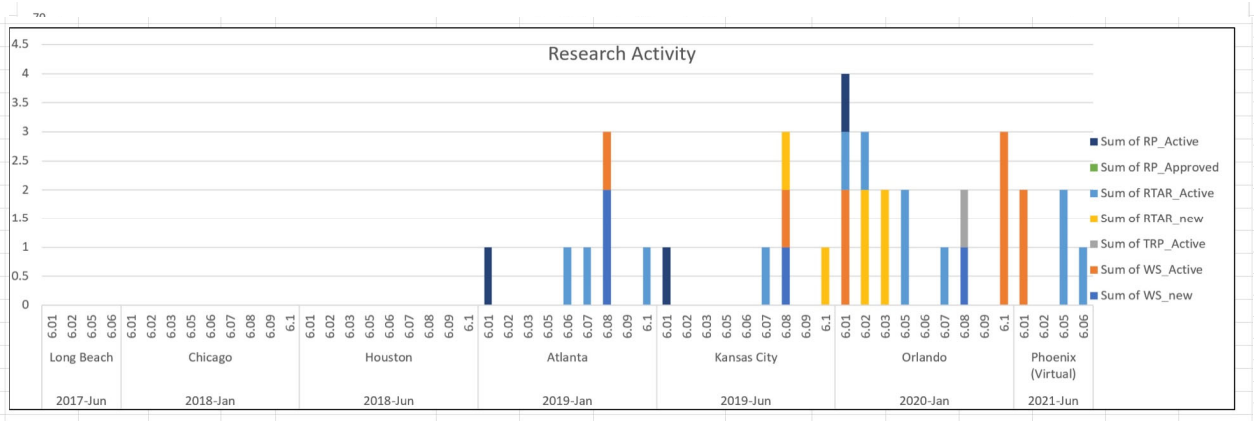
FG Activity Data Tracking



14

The Section Head is Your Servant Leader

- ❑ Envisioning FG goals and significance
- ❑ Equipping with ASHRAE process and productivity skills
  - ❑ Get to know your TC MOP (rolling updates)
  - ❑ Technical Committees (TCs) (ashrae.org)
- ❑ Empowering Chairs and Vice-chairs to actively lead
- ❑ TAC-open-mic-policy.pdf (ashrae.org)
- ❑ ASKTAC@ASHRAE.net
- ❑ **"The TC's are ASHRAE's best resource"–** Board of Directors

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ASHRAE CELEBRATING 125 YEARS

Corey Metzger

Section Head

TAC Section 1– Fundamentals and General

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Thank you TAC Section Heads! (Society Year 2021-2022)

SECTION	FIELD	NAME
MTG	Multidisciplinary Task Groups	*DAN DETTMERS*
1	Fundamentals and General	*DAVE MEREDITH* *COREY METZGER*
2	Environmental Quality	*JON COHEN*
3	Materials and Processes	*STUART DOLS*
4	Load Calculations and Energy Requirements	*VANCE PAYNE*
5	Ventilation and Air Distribution	*KEVIN MARPLE*
6	Heating Equipment, Heating and Cooling Systems and Applications	*DOUG REINDL*
7	Building Performance	*SATHEESH KULANKARA*
8	Air-conditioning and Refrigeration System Components	*KEVIN MERCER* *CHARLIE HENCK*
9	Building Applications	*BRAD COCHRAN*
10	Refrigeration Systems	*CHARLIE HENCK*

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Summary:

MTG.OBB has applied transform the MTG into a Technical Committee. This has been proposed in the past, but it was rejected on the basis that the scope of the new TC (proposed as TC 7.X or 7.10) and TC 2.1 would overlap. So the MTG rewrote the proposal and I have been asked to be certain that both the MTG and TC 2.1 are in agreement that there will not be a scope conflict.

The scopes of each group:

Proposed TC 7.X: Occupant Behavior in Building Design and Operation

Scope: 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 peak demand in buildings.

TC 2.1: Physiology and Human Environment:

Scope: TC 2.1 is concerned with the relationship of man's living environment, as altered by air-conditioning, heating and ventilating systems, to his comfort, health, and productivity.

To help clarify the situation for TAC, the **Chair of MTG.OBB**, Dr. Tianzhen Hong, wrote the following:

The major difference is TC 7.X (MTG.OBB) focuses on occupant behavior research including collecting data, analytics, modeling and simulation to understand and improve human-building interactions to reduce energy use and carbon emissions in buildings. TC 2.1 focuses on the fundamentals of human physiology - understanding and determining the needs of IEQ for occupant comfort, health and productivity. Two TCs have different focuses but have strong synergies. MTG.OBB has a voting member from TC 2.1. Bjarne Olesen (former ASHRAE president) was from TC 2.1 and he strongly supported forming the new TC.

Shichao Liu, **TC 2.1 Chair**, has also contributed the following:

TC 2.1 is concerned with "the relationship of man's living environment, as altered by air-conditioning, heating and ventilating systems, to his comfort, health, and productivity" (here). Literally, it is way beyond the "fundamentals of human physiology" as the relationship of the living environment is much broader than what is suggested by TC 2.1's name "Physiology and Human Environment." TC 2.1 is one of the oldest committees in ASHRAE. As knowledge needs evolve with time, its current name may not reflect its scope and activities inclusively. For example, psychology is in tandem with physiology in shaping the relationship between humans and their living environment. To manifest, TC 2.1 is the major sponsor for a few projects regarding performance/productivity and sleep quality that are in the domain of psychology. Also, STD 55 under this TC has touched on some psychological factors for thermal environmental conditions, such as using the level of personal control to classify thermal environment instead of thermostatic dead bands. So, I think TC 2.1 might want to take this opportunity to revisit the

wording of its name, as suggested by the comment on "man" and "his," and scope for a better reflection.

If we could agree on the TC 2.1's state-of-the-art scope reflected by its recent activities that physiology and psychology are both highly involved by the TC, the concern arises naturally with its potential overlap or even encompassment of "occupant behavior" that is a subdiscipline of psychology. Though the proposed TC 7.X is concerned with "data, methods, tools" the objective will still fall into the umbrella of psychology. A TC is defined by its objective or mission, instead of how to achieve it. Like many other TCs, TC2.1 also develops tools/guidelines to measure and assess thermal comfort and other perspectives. It also deals with data collection and analysis such as the projects of ASHRAE database I and II. Additionally, the proposed TC 7.X may have some overlap with TC 7.5 on smart building systems as its scope includes "operation of building processes" that is closely related to occupant behaviors. To my understanding, TC 7.X lies in the intersection between TC 2.1 and TC 7.5, which can be evidenced by that many members in TC 2.1 or TC 7.5 are also involved in MTG.OBB.

I am satisfied that this is sufficient explanation for me to convince TAC that MTG.OBB could become a new TC without a scope conflict with TC 2.1. I encourage all parties involved to be certain there is not a scheduling conflict between the two groups when the new TC becomes part of the ASHRAE meetings and will provide assistance as I can.

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: 2-10-2022

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

TG/TRG Name: Occupant Behavior in Building Design and Operation

TG/TRG Section: Section 7

TG/TRG Scope :[1] Proposed TC 7.x 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 peak demand in buildings.

[1]Please see page 2 for an example of a TG scope.

Impact on Other TC's/TG's/TRG's: TC 07.X will collaborate with several TCs on occupants related research and activities, including, TC 1.4 Control Theory and Application, TC 4.3 Ventilation Requirements and Infiltration, TC 4.7 Energy Calculations, TC 4.10 Indoor Environmental Monitoring, TC 7.1 Integrated Building Design, TC 7.3 Operation and Maintenance Management, and TC 7.5 Smart Building Systems.

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
- chairman & vice-chairman must be ASHRAE members
- maximum of 2 international members

		Person's Name:	*Company*	*ASHRAE Member #*
1	***Chairman:*** VM	Tianzhen Hong	LBNL	5132073
2	***Vice-Chairman:*** VM	Da Yan	Tsinghua University, China	8242201
3	***Secretary:*** CM	Jared Langevin	LBNL	8238758
4	VM	Marina Sofos	DOE	8279831
5	VM	Thomas Lawrence	University of Georgia	5215979
6	VM	Bass Abushakra	DATADIGM	
7	VM	Jim Lutz		2046258
8	VM	Julia Day	Kansas State University	8261040
9	VM, Research	Bing Dong	UTSA	8099745
10	VM	Rob Hitchcock		

TAC USE ONLY:

Date Received:_____ Date Sent to TAC/FP:_____ Meeting Date:_____ Approved? Yes No

This form is available in MS Word 9.0 (e-mail or disk).

TG/TRG Roster ctd.

VM	Glenn Friedman	Taylor Engineering	2000944
VM	Michael Jouaneh	Lutron	8092561
VM	Chien-fei Chen	University of Tennessee	8276443
VM	Zheng O'Neill	University of Alabama	5224176
VM	Jay Zhao	DELOS	8284493
VM	Sammy Meleika	NREL	8320087
VM	Mini Malhotra	ORNL	8029136
VMNQ	Bjarne W. Olesen	DTU, Denmark	549544
VMNQ	Clinton Andrews	Rutgers University	8121171
VMNQ	William O'Brien	Carleton University, Canada	8132138
CM	Kimberly Barker	Siemens	2047021
CM	Mark Zoeteman	FTCH	5020916
CM	William Bahnfleth	Penn State University	
CM	Gary Klein	GKA	
CM	Richard Danks		
CM	Mudit Saxena		
CM	Ed Arens	UC Berkeley	
CM	Don Horn		
CM	Michel Tardif	NRCan/RNCan, Canada	8015836
CM	John Elson	Kansas State University	
CM	Douglass Abramson		2018903
CM	Bew Schoenbaver	CFE	
CM	Carl Huber	Water Furnace	
CM	Gang Tang	University of Wyoming	
CM	Rune Korsholm Andersen	Technical University of Denmark	

Notes from MTG Section Head, Dan Dettmers:

Dr. Hong (Chair, MTG.OBB) provided the following description of how the new TC would be different from TC 2.1

TC 2.1 vs. the new TC 7.X

The major difference is TC 7.X (MTG.OBB) focuses on occupant behavior research including collecting data, analytics, modeling and simulation to understand and improve human-building interactions to reduce energy use and carbon emissions in buildings. TC 2.1 focuses on the fundamentals of human physiology - understanding and determining the needs of IEQ for occupant comfort, health and productivity. Two TCs have different focuses but have strong synergies. MTG.OBB has a voting member from TC 2.1. Bjarne Olesen (former ASHRAE president) was from TC 2.1 and he strongly supported forming the new TC.

Support for the new TC was echoed by the following members of TC 2.1:

Shichao Liu (Chair), Thomas Parkinson, Ongun Berk Kazanci, Marianne Touchie (Voting member from TC 2.1 on MTG.OBB), Bjarne

W. Olesen (2.1 alternate to MTG.OBB)

Chair Liu provided the following words:

TC 2.1 is concerned with "the relationship of man's living environment, as altered by air-conditioning, heating and ventilating systems, to his comfort, health, and productivity" (here). Literally, it is way beyond the "fundamentals of human physiology" as the relationship of the living environment is much broader than what is suggested by TC 2.1's name "Physiology and Human Environment." TC 2.1 is one of the oldest committees in ASHRAE. As knowledge needs evolve with time, its current name may not reflect its scope and activities inclusively. For example, psychology is in tandem with physiology in shaping the relationship between humans and their living environment. To manifest, TC 2.1 is the major sponsor for a few projects regarding performance/productivity and sleep quality that are in the domain of psychology. Also, STD 55 under this TC has touched on some psychological factors for thermal environmental conditions, such as using the level of personal control to classify thermal environment instead of thermostatic dead bands. So, I think TC 2.1 might want to take this opportunity to revisit the wording of its name, as suggested by the comment on "man" and "his," and scope for a better reflection.

If we could agree on the TC 2.1's state-of-the-art scope reflected by its recent activities that physiology and psychology are both highly involved by the TC, the concern arises naturally with its potential overlap or even encompassment of "occupant behavior" that is a subdiscipline of psychology. Though the proposed TC 7.X is concerned with "data, methods, tools" the objective will still fall into the umbrella of psychology. A TC is defined by its objective or mission, instead of how to achieve it. Like many other TCs, TC2.1 also develops tools/guidelines to measure and assess thermal comfort and other perspectives. It also deals with data collection and analysis such as the projects of ASHRAE database I and II. Additionally, the proposed TC 7.X may have some overlap with TC 7.5 on smart building systems as its scope includes "operation of building processes" that is closely related to occupant behaviors. To my understanding, TC 7.X lies in the intersection between TC 2.1 and TC 7.5, which can be evidenced by that many members in TC 2.1 or TC 7.5 are also involved in MTG.OBB.

Occupant Behavior in Building Design and Operation

Proposal for A New Technical Committee 07.10

Tianzhen Hong, PhD, PE, FASHRAE

On behalf of MTG.OBB

Original: March 12, 2018;

Revised: June 15, 2018; December 6, 2018; June 18, 2019; July 2020; December 2020; Final June 2021.

Background

Occupant behavior has strong influence on building energy use and occupant comfort, but it is less understood and usually oversimplified in the building design and operation. Understanding dynamic and diverse occupant comfort needs as well as occupant interactions with building systems is therefore crucial to ensuring that building design and operations meet energy performance goals while providing healthy and productive living and working environments.

MTG.OBB was officially approved by ASHRAE at the January 2016 Orlando Winter Meeting. Kick-off teleconference was held on May 2, 2016. MTG members have been meeting in person twice a year during ASHRAE conferences since the St. Louis meeting in June 2016. Currently MTG.OBB has 12 active TCs, 18 voting members and a total of 50 participants.

As ASHRAE's MTGs are temporary working groups on special topics that usually disband after two to three years, members of the MTG.OBB voted to convert the MTG.OBB to a technical committee based on the fact that the MTG.OBB has been functioning as a technical committee, with the on-going research, program and contributions to ASHRAE publications. We feel this MTG would fall in Technical Section 7.0 Building Performance. A potential number is TC 07.10 Occupant Behavior in Building Design and Operation.

MTG.OBB has been active in three areas: (1) seminars: proposing and sponsoring a series of seminars on occupant behavior in buildings, (2) research: one research project, two work

statements and four RTARs were developed, and (3) publications: contribution to Chapter 19 of 2017 and 2021 Fundamental Handbook, Chapter 13 Smart Building Systems for the Green Guide 4th Edition, and a new chapter 65 for the 2019 HVAC Applications Handbook. Details are as follows.

Research

- **Project 1883**: Development of the ASHRAE Global Occupant Database. A PMS was formed.
- **Work Statement 1815**: Integrating occupant behavior data into building information models for performance simulation
- **Work Statement 1811 (**co-sponsor with TC 1.5): Determining occupancy patterns in clusters of buildings with data drawn from web-based social media
- **RTAR 1870:** Investigating Occupant Energy Behavior and Building-Human Interaction in Office Buildings
- **RTAR new** (co-sponsor with TC 4.7): Baseline modification when building behavior changes
- **RTAR new** (co-sponsor with TC 2.8): Residential water fixture use schedules based on occupant behavior
- **RTAR new** (co-sponsor with TC 7.5): Occupancy-Aware Control and Operation of HVAC Systems in Commercial Buildings

Program – Seminars (16 + 2**)**

- **St Louis** January 2017 one conference paper session: Occupant Predictions and Thermal Comfort
- **Las Vegas** June 2017 one seminar: Occupant Behavior Driven Building Operation and Maintenance
- **Long Beach** January 2018 three seminars: Interdisciplinary occupant behavior survey; occupant-based model predictive control; using nature and keeping control
- **Houston** June 2018 two seminars: outcomes from Annex 66; technology adoption modeling
- **Atlanta** January 2019 two seminars: Occupant-centric Control Technologies: Assessing Comfort, Energy Use, and Cost Tradeoffs; Practical Aspects of Incorporating Occupant Considerations into Building Design and Operations
- **Kansas** June 2019 two seminars: Occupant Behavior Analysis and Application Based on Large-Scale Datasets, Occupant-Centric Building Design and Operation: State of the Art and Challenges
- **Orlando** February 2020 two seminars: Occupant-Centric Building Design and Operation: State of the Art and Challenges-Part II; Overview of the new chapter in 2019 HVAC Applications Handbook: Occupant-centric sensing and controls

- **Virtual/Austin** June/July 2020 one seminar: Occupant-centric building design and operation: Implementation case studies
- **Virtual/Chicago** February 2021 one seminar and one panel: Advancing occupant aspects of building energy codes, standards, and policy; Impact of COVID-19 on Building Energy Consumption, IAQ and Occupant Behavior
- **Phoenix** June 2021 two seminar proposals: Occupant information modeling; Occupant centric performance metrics

Publications

- 2021 Fundamentals Handbook, an extended section on occupant modeling for Chapter 19
- 2017 Fundamentals Handbook, a new section of Occupant Behavior, under the Inputs to Loads Models of Chapter 19 Energy Estimating and Modeling Methods
- 2019 HVAC Applications, a new chapter 65, Occupant-centric sensing and control
- Green Guide 4th Edition, updated Chapter 13 Smart Building Systems

Description of the Proposed Technical Committee 07.10: Occupant Behavior in Building Design and Operation

Scope of TC

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 peak demand in buildings.

Purpose of TC

Occupant behavior is one of the key factors influencing energy and comfort performance of buildings. However, occupant behavior, due to its complexity, diversity and stochasticity, is less understood and oversimplified in the building design and operation. TC 07.10 will propose and conduct research projects to (1) collect and develop data of occupant behavior in buildings, (2) develop and evaluate occupant behavior models that can be used in building performance simulation, and (3) conduct case studies to demonstrate applications of integrating occupant behavior to improve building design and operation.

TC 07.10 has three specialized subcommittees: Research, Program, and Interdisciplinary. The research and program subcommittees are similar to those of other TCs, while the interdisciplinary subcommittee is unique. The interdisciplinary subcommittee will integrate social and behavioral sciences with building science and HVACR engineering, aiming to: (1) understand occupants' attitudes, concerns, energy usage habits, and energy efficiency potential from the interconnection of social and technological perspectives, (2) advance research in energy efficiency behaviors by integrating the disciplines of mechanical engineering, building physics, sociology, psychology, architecture and beyond, and (3) provide insights for government, policy makers, utility companies,

building planners, and researchers in improving energy efficiency and building designs; which lead to a better connected smart community.

TC 07.10 will collaborate with several TCs on occupants related research and activities, including, TC 1.4 Control Theory and Application, TC 4.3 Ventilation Requirements and Infiltration, TC 4.7 Energy Calculations, TC 4.10 Indoor Environmental Monitoring, TC 7.1 Integrated Building Design, TC 7.3 Operation and Maintenance Management, and TC 7.5 Smart Building Systems.

TC 07.10 will collaborate with Annex 79 (2018-2023) "Occupant behavior-centric building design and operation" under the International Energy Agency's Energy in Buildings and Communities Programme.

Program Plan

TC 07.10 will propose and sponsor seminars for ASHRAE conferences focusing on occupant behavior data collection and modeling and simulation to inform building design and operation. Joint sponsorship of seminars with other TCs is encouraged. Information about the future technical program is discussed at each TC meeting and at the TC's Program Subcommittee meeting. There are two seminar proposals from MTG.OBB for each ASHRAE confernece since 2016.

For the Atlanta conference in January 2019, there are two seminars proposed and sponsored by MTG.OBB: Occupant-centric Control Technologies: Assessing Comfort, Energy Use, and Cost Tradeoffs, jointly sponsored by TC 1.4 and TC 7.5; and Practical Aspects of Incorporating Occupant Considerations into Building Design and Operations.

For the Kansas City conference in June 2019, there are two seminars proposed and sponsored by MTG.OBB: Occupant Behavior Analysis and Application Based on Large-Scale Datasets; Occupant-Centric Building Design and Operation: State of the Art and Challenges.

For the Orlando conference in February 2020, there are two seminars proposed and sponsored by MTG.OBB: Occupant-Centric Building Design and Operation: State of the Art and Challenges-Part II; Overview of the new chapter in 2019 HVAC Applications Handbook: Occupant-centric sensing and controls.

For the virtual conference in June/July 2020, there are two seminars proposed and sponsored by MTG.OBB: Occupant-centric building design and operation: Implementation case studies; Future Smart Building Operations for Load Flexibility.

For the virtual conference in January 2021, there are two seminars proposed and sponsored by MTG.OBB: Advancing occupant aspects of building energy codes, standards, and policy; Impact of COVID-19 on Building Energy Consumption, IAQ and Occupant Behavior.

For the conference in June 2021, there are two seminars proposed and sponsored by MTG.OBB: Occupant information modeling; Occupant centric performance metrics.

Research Plan

TC 07.10 will identify research topics, propose research projects, select bidders, and monitor research projects funded by ASHRAE. Information about their specific research program is discussed at each TC meeting and at the TC's Research Subcommittee meeting. Three research areas are summarized as follows.

Occupant behavior data collection

Research projects will be proposed to collect large-scale occupant behavior data in residential and commercial buildings, through monitoring and measurement of occupant activities in buildings, as well as questionnaire survey of occupants in buildings. Ethic issues and privacy issues will be addressed before data collection. The collected occupant behavior data is the foundation of understanding occupant behavior in buildings, and development and validation of occupant behavior models.

Occupant behavior modeling and simulation

Built upon the collected occupant behavior data, new occupant behavior models will be developed and existing models will be evaluated. These occupant behavior models will be applied to building performance simulation to inform building design and operation. The research outcomes will feed into TC 4.7 to improve consideration of occupant behavior in energy calculations in buildings.

Occupant-centric sensing and controls

Occupants live and work in buildings for 90% of their time. Understanding their dynamic and diverse comfort needs and their interactions with building systems is crucial to ensuring building design and operations meet energy performance goals while providing healthy and productive living and working environments. Although occupancy sensing and related controls have increasingly been integrated into HVAC system operations, more holistic, systems-based approaches are needed for integrating information about the human presence, comfort, and adaptive actions into the building controls loop using smart sensing technologies, IoT, AI, and big data. Inter-disciplinary approaches will be developed and applied to the design and operation of HVAC systems that link occupants with control strategies, aiming to reduce energy use in buildings and improve occupant comfort.

On-going activities

TC 07.10 is monitoring the research project 1883, development of the ASHRAE Global Occupant Database.

TC 07.10 is making progress in the on-going Work Statements and RTARs listed as follows.

- **WS 1815:** Integrating occupant behavior data into building information models for performance simulation

- **WS 1811:** Determining occupancy patterns in clusters of buildings with data drawn from web-based social media
- **RTAR 1870:** Investigating Occupant Energy Behavior and Building-Human Interaction in Office Buildings
- **RTAR new** (co-sponsor with TC 4.7): Baseline modification when building behavior changes
- **RTAR new** (co-sponsor with TC 2.8): Residential water fixture use schedules based on occupant behavior
- **RTAR new** (co-sponsor with TC 7.5): Occupancy-Aware Control and Operation of HVAC Systems in Commercial Buildings

Standards Activities

TC 07.10 will contribute to the development of several ASHRAE standards: 55, 62.1, 62.2, 90.1, 90.2, 189.1, and 100. Improved occupant behavior data and models can be applied to the development of these standards to capture the impact of occupant behaviors on building performance. TC 07.10 will establish communication with the related standard committees.

Handbook

TC 07.10 will be responsible for chapter 65, Occupant-centric sensing and controls, originally developed by MTG.OBB for 2019 HVAC Applications Volume. This chapter discusses inter-disciplinary approaches to the design and operation of HVAC systems that link occupants with control strategies, aiming to reduce energy use in buildings and improve occupant comfort. Focuses are on: (1) collecting real-time occupancy and comfort feedback, (2) integrating occupant feedback into HVAC control schemes, and (3) modeling occupant-centric HVAC control systems. Revisions for the 2023 HVAC Applications Volume are under development.

MTG.OBB also developed a new section on occupant modeling for Chapter 19 of the 2021 ASHRAE Fundamentals Handbook.

Other ASHRAE Publications

TC 07.10 will continue contributing to the revision of the Green Guide, Chapter 13 Smart Building Systems.

Proposed TC 07.10 Membership (based on current MTG.OBB membership)

Name	Affiliation	Membership	Representing TC/SPC/MTG
Tianzhen Hong	LBNL	Chair, VM	
Da Yan	Tsinghua University, China	Vice Chair, VM	

Jared Langevin	LBNL	NVM, Secretary and Program Subcommittee Chair	
Marina Sofos	DOE	VM	BTO Sensor and Controls Program
Thomas Lawrence	University of Georgia	VM	TC 2.8
Bass Abushakra	DATADIGM	VM	TC 4.7
Jim Lutz		VM	TC 6.6
Julia Day	Kansas State University	VM	TC 7.3
Bing Dong	UTSA	VM, Research Subcommittee Chair	TC 7.5
Rob Hitchcock		VM	MTG.BIM
Glenn Friedman	Taylor Engineering	VM	SPC 100
Michael Jouaneh	Lutron	VM	SSPC 189.1
Chien-fei Chen	University of Tennessee	VM, Interdisciplinary Subcommittee Chair	
Zheng O'Neill	University of Alabama	VM	
Jay Zhao	DELOS	VM	SGPC 10
Sammy Meleika	NREL	VM	
Mini Malhotra	ORNL	VM	TC 4.3
Bjarne W. Olesen	DTU, Denmark	VMNQ	TC 2.1
Clinton Andrews	Rutgers University	VMNQ	
William O'Brien	Carleton University, Canada	VMNQ	IEA EBC Annex 79
Kimberly Barker	Siemens	NVM	TC 1.4
Mark Zoeteman	FTCH	NVM	TC 4.7
William Bahnfleth	Penn State University	NVM	TC 4.7

Gary Klein	GKA	NVM	TC 6.6
Richard Danks		NVM	TC 7.3
Mudit Saxena		NVM	MTG.BIM
Ed Arens	UC Berkeley	NVM	SSPC 55
Don Horn		NVM	SSPC 189.1
Michel Tardif	NRCan/RNCan, Canada	NVM	TC 7.1
John Elson	Kansas State University	NVM	TC 2.1
Douglass Abramson		NVM	TC 9.2
Bew Schoenbaver	CFE	NVM	TC 6.6
Carl Huber	Water Furnace	NVM	MTG Section Head
Gang Tang	University of Wyoming	NVM	TC 4.10
Rune Korsholm Andersen	Technical University of Denmark	NVM	

TG/TRG PROPOSAL FORM

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

Date: _____

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

TG/TRG Name: ***Extraterrestrial and Deep Space Environmental Control Systems***

TG/TRG Section: ***Section 9***

TG/TRG Scope[1]: ***TG 9.SPACE is concerned with environmental control systems and components, as well as their function and ability to establish and maintain habitable levels of indoor environmental quality, located in and servicing enclosed spaces at deep space and extraterrestrial locations. The committee will also address environmental control system safety, operation and maintenance, refrigerant usage, and performance in conditions different from Earth and Earth's atmosphere.***

[1]Please see page 2 for an example of a TG scope.

Impact on Other TC/TG/TRGs: No Functional Group (FG) addresses environmental control and refrigeration systems in enclosed spaces located in deep space and extraterrestrial settings. Although habitable levels of indoor environmental quality in enclosed spaces at deep space and extraterrestrial locations may be addressed by FGs addressing indoor environmental quality in spaces on Earth, the appropriate application of maintaining those habitable levels in deep space extraterrestrial locations are not adequately addressed by any FG.

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

		Person's Name:	*Company*	*ASHRAE Member #*
1	***Chair:***	Mr. John M Constantinide	U.S. Space Force	8160800
2	***Vice-Chair & Voting Member:***	Dr. Hamidreza Najafi	Florida Institute of Technology	8277071
3	***Secretary & Voting Member:***	Mr. Rafael Rodriguez	Embry-Riddle Aeronautical University	8100186
4	***Program Subcommittee Chair & Voting Member:***	Mr. Keith Reihl	Reihl Engineering	50277731
5	***Standards Subcommittee Chair & Voting Member:***			
6	***Research Subcommittee Chair & Voting Member:***			
7	***Voting Member:***	Mr. Bruce B Lindsay	Lindsay & Associates	8312229
8	***Voting Member:***	Mr. Evan Connell	Optima Engineering, P.A.	8293558
9	***Voting Member:***	Mr. Ed Neister	Far-UV Sterilray	
10	***Voting Member:***	Mr. Clark Denson	Smith Seckman Reid, Inc.	7982348
11	***Voting Member:***			
12	***Voting Member:***			
13	***Voting Member:***			
14	***Voting Member:***			
15	***Voting Member:***			
16	***Voting Member:***			
17	***Voting Member:***			
18	***Voting Member:***			

T A C U S E O N L Y :

Date Received:_____ Date Sent to TAC/FP:_____ Meeting Date:_____ Approved? Yes No

Example Scopes

Technical Committee 1.5, Computer Applications

TC 1.5 is concerned with determination of computer applications to the design and optimization of refrigeration, heating, and air-conditioning systems, equipment and components thereof; and with programs for all such uses.

***

Technical Group 1.GLE, General Legal Education

TG1.GLE will educate the ASHRAE membership in general legal matters, which touch and concern the HVAC industry and its members. The committee will enable this education through the selection of speakers and offers for programs, and through the publication of articles and other educational materials.

Proposal to create MTG Corresponding Member category via modification of MOP for TC/TG/NTG & TRG

Background:

Currently, MTG's only have two membership categories: Voting Member and Alternate Member. Each position is assigned by the chair of each member TC/TG/TRG or non-TC group. Therefor, if there are multiple individuals from a given TC or other group interested in participation, only two can be officially recognized as members of the TC.

At least three TC's have petitioned for another membership category so others can be added to the official roster and recognized as contributors to the MTG.

Proposed changes:

Addition:

3.8 MTG Corresponding Members
- 3.8.1 Nominated by the MTG Chair
- 3.8.2 No restrictions on the number or affiliations of nominees
- 3.8.3 Expected to participate in MTG activities and attend meetings when possible
- 3.8.4 May not vote on MTG business
- 3.8.5 May serve on and chair MTG subcommittees, including Proposal Evaluation and Project Monitoring Subcommittees
- 3.8.6 May vote at the subcommittee level subject to voting restrictions in Section 5
- 3.8.7 May serve as Vice Chair or Secretary of a MTG as approved by the Chair and if they attend meetings regularly.

Modification:

~~3.8~~ 3.9 Ex Officio. The following are all ex-officio members of all TC/TG/MTG/TRGs.
- ~~3.8.1~~ 3.9.1 Chair of TAC
- ~~3.8.2~~ 3.9.2 Section Head
- ~~3.8.3~~ 3.9.3 Manager of and Technical Services (MOTS)
- ~~3.8.4~~ 3.9.4 An ASHRAE standing committee member with duties related to the TC/TG/TRG/MTG (eg. Conferences and Expositions Committee), selected by the Chair of the standing committee
- ~~3.8.5~~ 3.9.5 Ex-officio members may participate in discussions of the TC/TG/TRG/MTG but do not have voting rights

ASHRAE

Roadmap to Resilience

Resilient buildings and communities is one of four major goals of the ASHRAE 2019-2024 Strategic Plan. While resilience has become a hot topic among both the public and the engineering community, specific guidance on how to achieve resilience is generally not available. There is great interest within ASHRAE to work to improve resilience in the built environment but given the breadth of the resilience concept there is a need to prioritize activities and direct the overall effort towards specific goals. This document provides a roadmap for implementing specific measures within ASHRAE to incorporate resilience concepts across its many activities.

Overall Goal:
Position ASHRAE as the worldwide leader in HVACR resilience.

Background

Resilience, as defined in the ASHRAE and CIBSE Position Document on Resiliency in the Built Environment is the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events.

The ability to absorb adverse events involves identifying the hazards, setting appropriate design levels, and designing to achieve a specified performance when subjected to the hazards. In the past the design typically followed a prescriptive approach where both the hazard and the design requirements are required by standards, codes, etc. Performance based design, where the owner and designer have more flexibility in terms of the design requirements has been gaining in acceptance, but attempts to achieve enhanced resilience are often met with resistance since they go beyond simple code compliance.

Preparing and planning for hazards have been dictated, to a large extent, by using hazards and design levels specified in codes and standards. These hazard levels have traditionally been based on historical data, but efforts are underway to consider future effects such as climate change when determining design levels over the life of a project.

Considering recovery after an event is a relatively new concept for most designers. Since designing for no damage under any circumstances is not realistic, if we want a resilient building we must

determine acceptable levels of damage, including how a building should be used after an event, and the resulting requirements for functionality from the building systems. This is the main goal of designing for enhanced resilience – determining the requirements and designing to ensure the building delivers that performance with an acceptable time and cost of repairs.

Sustainability and Resilience

Sustainability and resilience are often conflated in discussions, even though the concepts are separate and sometimes in conflict. Some components of sustainability, such as energy efficiency, may lead to improved resilience, while others might make a building less functional if there is a loss of power or water. Further, for some buildings, such as emergency response shelters or hospitals, resilience is of primary importance, although the goal is to design for maximum sustainability within the functionality restrictions imposed by the intended use.

Roadmap Overview

The activities that ASHRAE will undertake to advance the overall goal of worldwide leadership in HVACR resilience can be divided into three broad conceptual categories: Coordinate, Develop, and Propagate. Each category consists of specific activities that ASHRAE will undertake, which are further characterized into the groups of Technical, Education, and Research.

Coordinate: Achieving true resilience in the built environment requires that all the pieces work together. Coordinating ASHRAE resilience-related activities will not only ensure that the developed products lead to truly resilient designs, but also that ASHRAE resources are used in a manner that advances resilience, eliminates duplication, and provides cost-effective benefits to the membership and society at large. The requirement for cost-effectiveness of ASHRAE efforts involve not only monetary investments, but also the most valuable of resources – the time and energy of the members. Coordination also involves working with other technical societies and governmental and academic institutions.

Develop: Standards, guidelines, user manuals, operation guides, educational guides and programs, etc. are the means by which ASHRAE technical expertise is documented and utilized. It is crucial that ASHRAE be the source of this information rather than letting others dictate how our members design HVACR systems. However, as ASHRAE moves towards development of resilience-related materials these efforts must be coordinated to ensure a holistic approach and disseminated to enhance their reach.

Propagate: ASHRAE can develop forward thinking resilience materials, but unless these materials are disseminated they are of limited use. Dissemination includes making the material available to both the technical and policy communities, but also provision of education on their application.

> ***Technical***: Technical activities will be the backbone of ASHRAEs efforts regarding resilience. Without a strong, scientifically based technical framework the drive to produce more resilient buildings will eventually dissipate.

***Education*:** Educating ASHRAE members and others on resilience in HVACR systems is essential to successful implementation of increased resilience in design, and also for continued support of ASHRAE activities regarding resilience.

Research: There is clearly a need for research into improving resilience in HVACR systems. However, it is not currently apparent which topics will provide the most return on investment to ASHRAE and its members.

ASHRAE Activities to Promote Enhanced Resilience				
Category	Group	Activity	Priority	Time Frame
Coordinate	Technical	C1: Develop overarching resilience technical goals	High	Short
	Technical	C2: Provide guidance to TCs and other groups	High	Medium
	Education	C3: Convene resilience meeting coordination	Mid	Short
	Research	C4: Convene resilience research coordination	Mid	Short
Develop	Technical	D1: Standard development	Mid	Medium
	Technical	D2: Guideline development	Mid	Medium
	Technical	D3: Other technical development	Mid	Long
	Technical	D4: Resilience webinar series	Mid	Short
	Education	D5: How-to guides	Mid	Long
	Research	D6: Research proposal guidance	Mid	Medium
Propagate	Technical	P1: Incorporate ASHRAE products	High	Long/Continuing
	Education	P2: Resilience webinar series	Mid	Short
	Education	P3: Short courses	Low	Long
	Education	P4: Support ASHRAE outreach	Mid	Medium
	Research	P5: Collect research ideas	High	Short

Activity Descriptions

Coordinate

C1: Develop overarching resilience technical goals: Work closely within ASHRAE with all appropriate TCs and groups external to ASHRAE to develop overarching resilience goals and guidance. It is expected that the Resilience MTG will perform this role, in conjunction with Tech Council.

C2: Provide guidance to TCs and other groups: Provide guidance and oversight to TCs and other groups within ASHRAE to ensure that their products are consistent with the overall resilience roadmap. A new group may be required to perform this activity

C3: Convene resilience meeting coordination: A dedicated group will be established to evaluate resilience-related conference proposals to ensure that they actually address resilience, and in a way that is consistent with ASHRAE policies on resilience. Too many programs reference the hot term of the moment but have little actual relation to the topic.

C4: Convene resilience research coordination: Set up a group within RAC to specifically evaluate resilience related research proposals for both technical excellence and how they fit into the overall ASHRAE resilience roadmap. This group would also ensure that the project is suitable for ASHRAE funding, and not more appropriate for basic science funding agencies such as NSF or DOE.

Develop

D1: Standard development: Develop standards that can be adopted into the building code to promote more resilient designs. These standards must be designed to work together to produce truly resilient buildings rather than a series of individual unrelated systems.

D2: Guideline development: Develop design guides, user manuals for commissioning, etc. to support the standards activities and promoter wider use amongst the design community.

D3: Other technical development: Develop, as appropriate, handbook chapters, software, models, sequence of operations, and other advanced tools to assist designers looking to enhance resilience in their projects.

D4: How-To Guides: Development of "how-to" guides either stand alone or supporting other standards and guidelines. See, for example, the ASHRAE Datacenter short guide books.

D5: Research proposal guidance: Develop guidelines for TCs to use in determining what information is missing that will advance their efforts to develop technical information on resilience. This guideline could include a checklist of items to be considered when evaluating a resilience research topic/proposal. Of particular importance is supporting standard, guideline, and handbook chapter development since these items are of the most use to ASHRAE members.

Propagate

P1: Incorporate ASHRAE products: Work to integrate ASHRAE's technical documents into the building code, rating systems, and other building design projects globally.

P2: Resilience webinar series: A dedicated resilience webinar series to provide general information on resilience to ASHRAE members would include topics such as what is resilience, how it affects/will affect design practice, how building resilience impacts communities, and updates on activities within ASHRAE. Ideally these webinars would be free to members to encourage attendance and member involvement in ongoing activities.

P3: Short courses: ASHRAE short courses related to technical documents as they are developed. The short courses should be available online and/or in-person at every ASHRAE winter and summer meeting.

P4: Support ASHRAE outreach: Active support of presenting ASHRAE resilience initiatives to other audiences such as government officials, building owners/developers, architects, etc.

P5: Collect research ideas: Use ASHRAE publications and meetings to solicit input regarding resilience research priorities. Develop an ASHRAE "Think Tank" regarding resilience, and hold a workshop(s) to collect research priorities. Allow the general membership a voice in identifying those areas most in need of new information.

Resource Commitments

Money - research, webinar development, coordination travel, workshops, etc.

Staff

Space - slot at meetings? meeting space, etc.

M E M O

Date: February 21, 2022

To: International Standards Interaction (ISI) Task Force

From: ISI Task Group 2 (Technical Committees)
Craig Messmer, lead
Oswaldo Bueno
Danny Halel

Re: Task Group 2 update

No meetings were scheduled for February. The next meeting will be set for mid-March.

Messmer gave a 3 minute video presentation to all TC chairs at the Sunday TC chair breakfast meeting in Las Vegas. The video was also uploaded to the Technical Activities Committee (TAC) website. The main point of the presentation was to introduce the ISI and to let the TC chairs know that subsequent communication would follow in the next few months asking for the TC's input and assistance.

The next TAC meeting is scheduled March 1 and the ISI will be on the agenda to provide instruction to the TAC Section Heads on the message to take to the TC chairs. TAC will also be asked to approve adding a check off on the TC Activity Form on whether the TC filling out the form discussed Global Outreach. This Activity Form is completed by every TC at each conference (twice a year) and will create a permanent reminder on this important subject.

The mid-March meeting for TG2 will have only one agenda item – to decide what the ask for the TC is and which TCs will be asked.

ASHRAE Leadership Presentation

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."

Harassment and Discrimination Policy

ASHRAE strictly prohibits and does not tolerate discrimination against members or applicants for membership because of such individual's race, color, religion, age, sex, sexual orientation, national origin, physical or mental disability, pregnancy, genetic information, veteran status, uniformed service member status, or any other category protected under applicable law.

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

View ASHRAE Governing Documents at ashrae.org/about/governance

2

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.

Learn More about Technical and Society Level Committees
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

Learn More and Nominate Someone Today
ashrae.org/honorsandawards

ASHRAE Technical Committees (TCs) and Volunteer Opportunities at ashrae.org/communities

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ASHRAE Commitment to Care Statement

The health and safety of all ASHRAE conference attendees is a top priority.

Out of respect for our fellow attendees, we strongly recommend wearing masks indoors, to monitor our health, seek medical attention if symptoms develop and adhere to all ASHRAE Commitment to Care protocols.

We are committed to the well-being of one another.

View the full Commitment to Care at ashrae.org/2022Annual

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ASHRAE Simplified Rules of Order & Quick Reference

NEW!

ASHRAE SIMPLIFIED RULES OF ORDER & MEETING FUNDAMENTALS

Download the rules and quick reference
ashrae.org/communities/committees/society-rules-committee

- Presented by the Society Rules Committee and BOD approved at the 2022 Winter Conference.
- Intent is to streamline meetings by providing simpler meeting guidance. Rules generally follow Roberts Rules of Order but are intentionally modified for the purpose of use in ASHRAE meetings.
- Councils and Committees are **expected** to be fully operational in the new meeting guidance beginning July 1, 2022.

These are big changes for our Society, and we need your assistance to implement the approved changes at the Society and Chapter level.

Questions or comments regarding the new rules of order and quick reference?
Contact boardservices@ashrae.org

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President's Luncheon

Monday, June 27
12:15 – 2:00 pm

Securing Our Future

2022-23 ASHRAE President
Farooq Mehboob, Fellow Life Member ASHRAE

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World Refrigeration Day

The Coolest Day of the Year
June 26, 2022

The day raises awareness of refrigeration, air conditioning and heat pumps and their role in modern society to a wider audience

#coolingmatters

Learn More at worldrefrigerationday.org

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2022-23 Board of Directors
Executive Committee

Through an elaborate committee structure, including committees and councils, ASHRAE policies are established by a **Board of Directors** comprised of Society members elected by the membership. Board members serve terms of one to three years, including the President who serves a one-year term.

President
Farooq Mehboob, P.E.
Fellow ASHRAE, Life Member
Karachi, Pakistan

President-Elect
Ginger Scoggins, P.E.
Raleigh, North Carolina

Treasurer
Dennis Knight, P.E.
Fellow ASHRAE
Mt. Pleasant, South Carolina

Vice Presidents
Dunstan Macauley, P.E., HBDP
Arlington, Virginia

Billy Austin, P.E., BCxP, BEAP, BEAP, HBDP, HFDP, OPMP
Charlotte, North Carolina

Sarah E. Maston, P.E., BCxP
Hudson, Massachusetts

Ashish Rakheja
Noida, Uttar Pradesh, India

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2022-23 Board of Directors
Director and Regional Chairs

Region I
Steven C. Sill
Sterling, New York

Region II
Ronald Gagnon
Quebec, Canada

Region III
Mark Tome, P.E., HFDP
Harrisburg, Pennsylvania

Region IV
Bryan Holcomb
Oak Ridge, North Carolina

Region V
James Arnold, P.E.
Dublin, Ohio

Region VI
Susanna Hanson
La Crosse, Wisconsin

Region VII
Chris M. Gray, Ph.D., P.E.
Atlanta, Georgia

Region VIII
Randy C. Schrecengost, P.E., BEAP
Austin, Texas

Region IX
Tyler J. Glesne, BCxP, BEAP
Omaha, Nebraska

Region X
Devin A. Abellon, P.E.
Los Angeles, California

Region XI
Eileen Jensen, P.E.
Vancouver, Washington

Region XII
John Constantinide, P.E.,
Merritt Island, Florida

Region XIII
Cheng Wee Leong, P.E.,
Singapore

Region XIV
Andres J Sepulveda
Madrid, Spain

Region-at-Large
Richie Mittal
New Delhi, India

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2022-23 Board of Directors
Directors-at-large

Wade Conlan, BCxP
Maitland, Florida

Blake Ellis, P.E.
Overland, Kansas

Dru Crawley, Ph.D., BEMP
Washington, D.C.

Kenneth Fulk
Allen, Texas

Art Giesler
Colleyville, Texas

Wei Sun, P.E.
Ann Arbor, Michigan

Kishor Khankari, Ph.D.
Ann Arbor, Michigan

Luke Leung, P.E
Clarendon Hills, Illinois

Adrienne Thomle
Reno, Nevada

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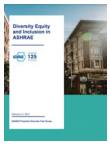
Diversity, Equity, & Inclusion (DEI) in ASHRAE
BOD Subcommittee created by the Board in January 2021

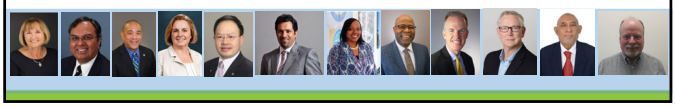


The purpose of the BOD DEI Subcommittee is to advise and engage the Board of Directors on:

- 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
- Potential DEI training modules for Chapters and Committees

Download the Report
ashrae.org/DiversityEquityInclusion

Members of the BOD DEI Subcommittee
Adrienne Thomle (Chair); Kishor Khankari (Vice Chair); Devin Abellon; Susanna Hanson; Wei Sun; Ashish Rakheja; Tanisha Meyers-Lisle (Staff Liaison)
Dunstan Macauley; Billy Austin; Dennis Knight; Farooq Mehboob (Consultant); Steven Sill



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Task Force for Building Decarbonization

Initiative of ASHRAE President and President-Elect, with the realization that our successful initiatives in building energy efficiency should be expanded to building decarbonization

- **15** members, Co-Chaired by Presidential Members Don Colliver and Tom Phoenix
- **9** working groups with over **100** international volunteers
- Positioned ASHRAE to tackle building decarbonization with the same level of importance and urgency as ASHRAE tackled energy efficiency during the energy crisis

SY2022-23 Evolution:

- TFBD ExCom to develop and implement strategic direction
- Operational Subcommittee to develop content for six guides
- Products and Services Subcommittee to oversee Web Site & Knowledge Hub, and Training & Education

Email questions or input to decarb@ashrae.org and learn more at ashrae.org/decarb

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Distinguished Lecturer

Do you want to be the next ASHRAE Expert in Building Decarbonization?

ASHRAE Distinguished Lecturer (DL) will share knowledge virtually and in-person with ASHRAE Chapters about topics related to building carbon footprint reduction.

Topics associated with building decarbonization include:

- Operational carbon
- Embodied carbon
- Building system electrification
- Building performance standards
- Grid-building intersection
- Appliance and equipment standards
- Site sequestration

Distinguished Lecturer

Submit Nominations by December 1

To learn more, visit www.ashrae.org/dl

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Society Updates

Approved ByLaws Change: Full Member

ASHRAE Membership voted to approve changing the title of 'Member' grade to 'Full Member' grade to differentiate between those who have provided necessary education and professional background information to the Society in order to qualify as a Full Member grade.

Request to Advance to Full Member Grade
Associate and Affiliate members may request to advance to Full Member grade by updating their membership bio in their ashrae.org profile and notifying membership@ashrae.org.

View the latest Society Snapshot at ashrae.org/society-snapshot

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Membership & Communities

Your Benefits ashrae.org/membership

New Member Benefit Selection

Full dues paying Full and Associate Members may select from the following complimentary annual member benefits:

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

Visit ashrae.org/chapters to quickly find the chapters nearest you!

New Benefits for Employers and Members

10% Discount - Starting July 1
Employers who sign up 5 or more Employees in a single transaction receive a 10% discount.

Free Winter or Annual Conference
New full dues paying members who join after July 1 receive one complimentary registration to a Winter or Annual Conference to be used within the first two years of their membership.

Connect-A-Colleague
Invite peers to join ASHRAE and participate in committees using a pre-written email invitation at ashrae.org/connect

Your Community ashrae.org/communities

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Supporting ASHRAE's Mission

Research Promotion (RP)

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

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

Society Year 2020-2021 total raised: $2,300,519

- $1,769,785 in contributions for Research
- $332,698 for ASHRAE Foundation
- $134,666 for Scholarships
- $63,370 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

46 Society Scholarships totaling $200,000

33 Chapter-Awarded Scholarships totaling $54,000

ASHRAE Chapters provide an additional $196,000 in scholarship support locally

Donate, Volunteer, Apply, and Learn More at ashrae.org/support

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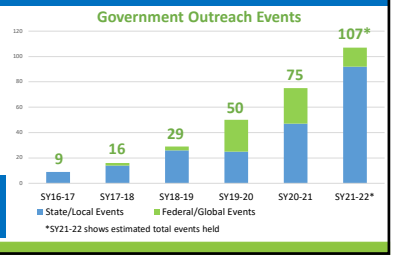
Government Affairs

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.

- The **Government Affairs Update** bi-weekly newsletter provides updates on government activities. Subscribe online or by emailing GovAffairs@ashrae.org.
- **Government Outreach Events** connect ASHRAE volunteers with policy-makers.
- Letters, briefings, testimony, and comments are sent in support of ASHRAE's **Public Policy Priorities**: 36 sent this year.



Get Involved + Get Resources ashrae.org/government-affairs

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Professional Development

eLearning
Convenient, on-demand courses for individuals or groups.

90+ online courses starting at $42 for members.

Group Rates Available

Updated Course Catalog:
elearningcatalog.ashrae.org

ASHRAE Learning Institute (ALI)
Instructor-led courses in a variety of formats.

See the Updated Schedule of In-Person and Virtual HVAC Design Courses!

- Level I – Essentials
- Level II – Applications

NEW Courses Added to the Instructor-led Online Serie
ashrae.org/onlinecourses

Courses Available for ASHRAE Chapter, and In-Company Presentations.

Certification
Validate and promote your expertise via online examination and digital badging.

Building Design
- Energy Modeling (BEMP)
- Healthcare Facility Design (HFDP)
- High-Performance Building Design (HBDP)
- HVAC Design (CHD)

Building Performance
- Commissioning (BCxP)
- Energy Assessment (BEAP)

Building Operations
- Operations & Performance Maintenance (OPMP)

ashrae.org/professional-development

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Publications

Be on the lookout for updated Standards 90.1 and 62.1 later this year.

Recently published items available at ashrae.org/bookstore

Designing for Operational Excellence—Intentional Design for Effective Operation and Maintenance

ASHRAE Standard 15.2: Safety Standard for Refrigeration Systems in Residential Applications (ANSI Approved)

Lucy's Engineering Adventure

Principles of Heating, Ventilating, and Air Conditioning, Ninth Edition

Advanced Energy Design Guide for Multifamily Buildings – Achieving Zero Energy (AEDG)

Duct Systems Design Guide

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Resources

ASHRAE Technology Portal	Provides a one-stop location for ASHRAE papers, articles, reports, Handbook PDFs, and seminar recordings.
Online Standards Database	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.
Zero Energy Advanced Energy Design Guides (AEDG)	Available for free download: NEW! NZE Guide for Multifamily Buildings, and AEDG for offices and K-12 schools.
Science and Technology for the Built Environment	Provides free online access to archival research publication offering comprehensive reporting of original research.
ASHRAE Technical Apps	Deliver mobile design, calculation, and analysis tools to the palm of your hand.
Free Technical Resources	Offer downloads of a variety of well-known resources to everyone.
ASHRAE 365	Updates on all things ASHRAE, for free and year-round.

Find these resources and many more at ashrae.org

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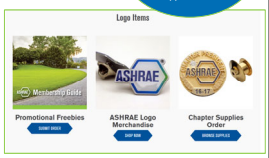
Marketing Central

Created for the busy volunteer, **Marketing Central** is a single page resource for Society-related marketing materials.

Resources organized by file type:

- Canva Templates
- Forms
- Logos
- PDFs
- PowerPoint Presentations
- Templates
- Toolkits
- Tradeshows
- Videos
- Virtual Backgrounds

- Request promotional freebies
- Shop the logo store
- Order Chapter supplies



ashrae.org/marketingcentral

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AHR Mexico

AHR EXPO MÉXICO — CO-SPONSORS

September 20-22, 2022
Guadalajara, Jalisco

ahrexpomexico.com/en/

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ASHRAE Topical Conferences

SEP 2022	**2022 ASHRAE Building Performance Analysis Conference** Sep 14 – 16, 2022 | Chicago, IL
OCT 2022	**International Building Decarbonization 2022 Conference** Oct 6-7, 2022| Athens, Greece
OCT 2022	**The Fifth International Conference on Efficient Building Design** Oct 20–21, 2022 | Beirut, Lebanon
DEC 2022	**Buildings XV Conference** Dec 5–8, 2022 | Clearwater Beach, FL
MAR 2023	**ASHRAE SCANVAC HVACC Cold Climate Conference 2023** Mar 6-8, 2023 | Anchorage, AK Mar 9-10, 2023| Fairbanks, AK

ashrae.org/conferences

23

2023 ASHRAE Winter Conference

2023 ASHRAE Winter Conference & AHR Expo
February 4-8, 2023
Atlanta, GA

Registration opens in Fall 2022
ashrae.org/2023Winter

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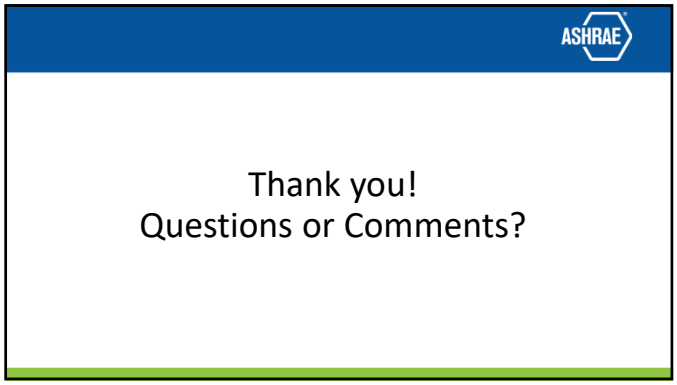
ASHRAE
Thank you!
Questions or Comments?