



**TECHNOLOGY  
COUNCIL**  
Fall Virtual Meeting  
Thursday, Nov. 4, 2021

*NOTE: Approved by Technology Council on February 2, 2022*

## MOTIONS

Technology Council Fall Virtual Meeting  
November 2, 2021

Motion	Description
1	That the minutes of Tech Council's Annual Summer Virtual Meeting held June 23, 2021 be approved as distributed.
2	That Technology Council permanently refer the budget and development of Standards User's Manuals to Publication and Education Council.
3	That Technology Council add the amount of \$225,000 to the 2022-23 Society Year Technology Council proposed capital budget for the automation of the research process.
4	That Technology Council add the amount of \$25,000 to the 2022-23 Technology Council proposed capital budget for completion of the automation of the Functional Group Rosters.
5	That Technology Council add the amount of \$125,000 to the 22-23 Technology Council proposed capital budget for the automation of the Functional Group Evaluation and Functional Activity Forms.
6	That Technology Council recommend that the BOD approve the revised Position Document titled <i>Limiting Indoor Mold Growth and Dampness in Buildings Systems (04C-A)</i> .
7	That Tech Council approve changes to the Technology Council Reference Manual ( <b>04C-B</b> ).
7A	Motion 7 was withdrawn requesting changes to the Technology Council Reference Manual ( <b>04C-B</b> )
8	That proposed changes to the TPS for Standard 90.1, <i>Energy Standard for Buildings Except Low-Rise Residential Buildings</i> , be approved as shown in <a href="#">Attachment A</a> .

## ACTION ITEMS

Technology Council Fall Virtual Meeting  
November 4, 2021

AI#	Responsibility	Status	Description
1	Hammerling	Closed	Editorial Change to be made to PD Limiting Indoor Mold Growth and Dampness in Building Systems from 15 C to 15.6 C.  <i>Secretary's Note: This was discussed after the meeting and it was determined that it needed to remain the same as the Standard 62.1 values (60 degree F and 15 degree C.)</i>
2	DRSC	Open	Work with GAC to finalize potential new PD format and send to OPS.
3	RAC	Open	Develop and present to Tech Council an implementation and monitoring plan for the new Research Strategic Plan for review at the Spring Tech Council Meeting.
4	RAC	Open	Provide a review and summary of the progress made on the current Research Strategic Plan for review at the Annual Meeting.
5	McGinn	Open	Ask the Board Excom to officially review Victor Goldschmidt's Leadership videos- for consideration of promotion and working with the Professional Development Committee to add to ASHRAE course offerings.
6	McGinn, Glesne, Conlan	Open	REF-CPCC committee leadership to meet with Tim McGinn, Tyler Glesne, Wade Conlan and staff to figure out path forward for the committee.

## MINUTES

Technology Council Summer Virtual  
Meeting Thursday,  
November 4, 2021

### **Voting Present:**

Tim McGinn, Chair  
Sarah Maston, Vice Chair  
Wade Conlan  
Jaap Hogeling  
Adrienne Thomle  
Tyler Glesne  
Rick Hermans  
Billy Austin  
Wei Sun  
David Yashar  
Paul Francisco  
Krishnan Gowri  
Christopher Phelan  
Heather Platt Gulledge

### **Non-voting Present:**

Rick Heiden, StdC  
Larry Smith, TAC  
Michael Pouchak, RAC  
Luke Leung, EHC  
Richard Karg, RBC  
Susanna Hanson, StdC  
Omar Abdelaziz, RAC  
Nicholas Clements, EHC  
Dustin Lilya, REF-CPCC  
William Healy, RBC

### **Staff**

Stephanie Reiniche, DOT  
Lilas Pratt, MOSP  
Steve Hammerling, AMORTS  
Mike Vaughn, Sr. MORTS  
DD Latham, AA  
Connor Barbaree, Sr. MOS  
Jeff Littleton, EVP  
Alice Yates,

### **Guests**

Tom Lawrence  
Lew Harriman

### **TechC Absent:**

Stephen Gill, REF-CPCC  
Craig Messmer, TAC

## 1. **CALL TO ORDER/OPENING COMMENTS**

Chair, Tim McGinn, called the meeting to order at 8:00 a.m. Vice Chair, Sarah Maston, was asked to record action items. Agenda was accepted as distributed.

*Secretary's Note: Quorum was met with 13 voting members, plus the Chair. All reports noted in the minutes can be found on Basecamp listed under folder ASHRAE Technology Council/Docs and Files/Meetings 2022/22 2021\_11\_04 TechC Fall Meeting.*

## 2. **MINUTES/ACTION ITEMS**

It was moved by Rick Hermans and seconded by Adrienne Thomle that:

- M1** The minutes of Tech Council's Annual Summer Virtual Meeting held June 23, 2021 be approved as distributed.

**TechC Vote:** 13-0-0, CNV

Technology Council Action Items were reviewed and updated as follows:

**ACTION ITEMS**

Technology Council Fall Virtual Meeting  
November 13, 2020

AI#	Responsibility	Status	Description
1	Reiniche and Hammerling	Complete	Work with TAC on moving forward the request for a TAC Functional Group reporting automation tool including a proposed budget.

**ACTION ITEMS**

Technology Council Winter Virtual Meeting  
February 2, 2021

AI#	Responsibility	Status	Description
1	DRSC	Ongoing Follow-up at Winter Meeting	Conduct a short training session on how PDs travel through the ASHRAE process and provide to cognizant committees.
2	Staff	Ongoing	Request training for DRSC and any member of Tech Council on the PPIB Process from GAC.

**ACTION ITEMS**

Technology Council Summer Pre-Virtual Meeting  
Friday, June 4, 2021

AI#	Responsibility	Status	Description
1	Khankari	Complete	Take the feedback on removing systems from the scope to the Infectious Aerosols PDC to confirm that it should be done and if it is editorial.
2	Staff	Complete	Send a copy of the proposed Infectious Aerosols Position Document TPS change to EHC as an information item.
3	McQuade/ McGinn	Complete	Proposed ASHRAE PD on "Building Decarbonization". Share feedback to the PDC: 1. Review the purpose and scope alongside other PD purpose and scope to make the format consistent. 2. Ensure that the committee is reviewing the other PDs to avoid overlap, duplication, and conflict.
4	Staff	Complete	Provide Larry Schoen with a copy of the draft Tobacco Smoke PPIB if he hadn't received one.

## ACTION ITEMS

Technology Council Summer Virtual Meeting  
Wednesday, June 23, 2021

AI#	Responsibility	Status	Description
1	Staff	Complete	Distribute suggested streamlining ideas written by Tim McGinn to facilitate ideas for consideration by the Standing Committees
2	Wilkins	Ongoing	Provide a list of project amounts that may be ready for bid to Staff for distribution.
3	EHC	Complete	Determine how ASHRAE and IEQ-GA engage each other including a review of the bylaws of both organizations.

### 3. SUBCOMMITTEE REPORTS

#### A. OPERATIONS

Rick Hermans, OPS Chair, presented the report.  
It was moved by Rick Hermans that:

**M2**

Technology Council permanently refer the budget and development of Standards User's Manuals to Publication and Education Council.

**Background:** Historically, user's manuals development cost has ranged from \$35,000 to \$120,000 per manual. The range in costs is affected by the size of the standard, the number of changes since the last version, and whether the effort is a first-time user's manual. The most recent user's manual development costs were roughly \$40K (for Standards 62.1-2019 and 62.2-2019) and \$85,000 (for Standard 90.1-2019). The costs for these three ASHRAE standards recur every three years. The development timeline is roughly one year from start to finish. Repeated attempts to shorten the timeline have been unsuccessful. The steps required for development and publication are as follows:

1. The SSPC prepares a request for a user's manual detailing requested changes from previous version or justification for a brand-new user's manual.
2. The request and allocation of funds must be approved by SPLS, Standards Committee, Special Projects, and Tech Council
3. A Work Statement is created by the SSPC and reviewed by staff for consistency with ASHRAE procedures and policies and with publication requirements
4. The SSPC develops a list of potential bidders for the user's manual work
5. Staff assembles the full RFP (including work statement and all attachments). The RFP is sent to the list of potential bidders. An announcement about the RFP is sent out to the Standard's listserve, included in one of ASHRAE's eNewsletters, and posted on the ASHRAE website.
6. A Project Monitoring Subcommittee (PMS) is formed by the SSPC and approved by SPLS.
7. Proposals are received and assembled by staff. If not enough bids are received, then additional solicitations may be needed.
8. The proposals are sent to the PMS along with an evaluation form to rate the proposals and bidders based on the criteria specified in the work statement.

9. The PMS reviews and rates the proposals and then meets to make a final selection and recommendation for the contractor. Representatives from SPLC on the PMS participate in the process to ensure that all procedures and policies are properly followed during the selection process.
10. The recommendation is sent to SPLS for review and approval. SPLS approves contractor (or if there are concerns about the process or procedures followed for the selection, either overrides the recommendation or sends the recommendation back to the PMS for reconsideration).
11. A contract for the work is developed by staff and sent to the selected Contractor for review and signature.
12. The Project begins as per the agreed upon start date.
13. The PMS and/or SSPC assess and comment on the progress of the user's manual through review of drafts at intervals as specified in the contract. Typically, these include an expanded outline, a preliminary draft, a second draft, and a final draft. In many cases, the second draft and final draft are combined into a single review.
14. After the review of the final draft, a final document is distributed to the PMS and then the SSPC for review and approval. The votes for approval are typically done by letter ballot. Negative votes by the SSPC result in a recirculation ballot where reasons for negative votes are distributed to all SSPC member for consideration during a second letter ballot.
15. Additional issues are often raised during the approval process and these are addressed on a case by case basis, with the committee member and resolved as needed.
16. After all reviews and approvals, the final document is completed and submitted to ASHRAE with all other required deliverables as specified in the work statement and contract (i.e., graphics files, supplemental material, associated spreadsheets, and any required permissions.)
17. The final draft and all required deliverables are provided to Publications staff to begin the publication process (final editing and formatting).
18. Publications develops a set of galley proofs for with questions and queries that are reviewed and answered by select SSPC/PMS members.
19. The User Manual is Published.

The proposal to move development from Technology to Publications would allow for the shortening of the process by eliminating many of the currently required review and approval steps as detailed above. It is estimated that the development timeline would be cut in half which would allow the user's manual to publish closer to the publication of the associated standard. A shorter timeline with fewer steps is also expected to reduce the required cost for development.

This referral would include the recommendation that that subject matter experts (SME) from the relevant SSPC be engaged by Publications for involvement in the development process as appropriate. A successful example of this process was the development of the IgCC user's manual by ICC. The ICC contracted with several SMEs from SSPC 189.1 to develop the content and then selected others on the committee to review the drafts for accuracy. This greatly shortened the development time and the cost.

**Projected Fiscal Impact:** Development Savings of \$112,500 every 3 years

**TechC Vote:** 13-0-0, CNV

*Secretary's Note: The above motion was sent to Director of Publication and Education for*

*consideration by PubEd Council.*

It was moved by Rick Hermans that:

**M3**

Technology Council add the amount of \$225,000 to the 2022-23 Society Year Technology Council proposed capital budget for the automation of the research process.

**Background:** For quite some time RAC has received feedback from the TCs and others within ASHRAE that the research process is too slow and cumbersome. The current research proposal process from beginning (RTAR) to end (final report from the PI) is manual, including the tracking of milestones and payments. The MORTS report that is shared with RAC for project tracking is also done manually by staff. Staff has shared the rough outline of the proposed project with the outside vendor that updated the online comment database. The estimated fiscal impact cost comes from what he would anticipate the level of work needed.

The proposed project scope is to automate and store all forms within a database, send automatic emails at varying stages and after submissions of documents, store evaluation of projects and bidders in the database, upload bids, include milestones with tracking emails, and generate reports to track project status. In addition, the proposal includes posting the historical projects to allow for trend analysis. If this project is approved, RAC will also look at where the process can be streamlined and update their procedures, as part of the drafting of the detailed specifications. Moving to an automated process would increase the speed of projects, reduce errors, allow for better review of bidder performance, and enhance the member experience.

Staff will oversee the project with help from members of RAC. The intent is to have the project start on July 1, 2022 and it is anticipated that this is an 8-to-12-month project. This project meets the Society Strategic Plan Goal 2: Maximize Member Value and Engagement and Goal 3: Optimize ASHRAE's Organizational Structure to Maximize Performance. This would optimize ASHRAE's organizational systems and structures to increase capacity, efficiency, and effectiveness. It should be noted that this would be a capital expense.

**Fiscal Impact: \$225,000**

*Council discussed the motion. Depreciation would be over five years. Tim McGinn explained that we don't need to be too concerned about depreciation as it isn't against the TechC budget. These are capital improvements. Finance decides how and when funds can be carried over. Wade Conlan asked who was leading this. Tim confirmed OPS and Finance would take the lead.*

**TechC Vote:** 13-0-0, CNV

It was moved by Rick Hermans that:

**M4**

Technology Council add the amount of \$25,000 to the 2022-23 Technology Council proposed capital budget for completion of the automation of the Functional Group Rosters.

**Background:** A project has been in progress through the Staff IT team to automate the Functional Groups (FG) roster updates for at least eight years. The extended timeline is due in part to staffing changes and the priorities set for IT staff time. This has resulted in a tremendous outlay of staff and member time as the project has been started and restarted multiple times. The project is currently approximately half-way complete.



The purpose of the automation is to make it easier and faster for the FG Chairs and TAC to process and approve roster changes in a repeatable fashion. It will also be faster for staff to complete the changes. The project, as it exists today, is not yet automated, and staff are still manually entering the data. The amount of time necessary to manually update rosters 103 functional groups with rosters of varying size is substantial, and the process delays getting the most up to date rosters to FG chairs.

The biggest piece of automation missing from the project is for the updates made by the FG chair to automatically feed back into Netforum for easier review and processing by staff, for TAC section head approval, and for faster completion of rosters for members. Faster completed roster changes will allow staff to provide additional support to FG's where needed to do their work. TAC is currently reviewing the roster change and approval process to streamline where possible and to be better positioned to help prepare the final specifications for the online process. TAC, along with ASHRAE staff, will also investigate the possibility of using the automated roster process to ensure that voting membership of the FG's comply with the requirements of the MOP. ASHRAE staff has reached out to the outside contractor that developed the online comment database for a cost estimate, and if the project is approved, a detailed specification will be created with the intent to start the project July 1, 2022. This effort meets the Society Strategic Plan Goal 2c: Leverage Technology to Increase Member Engagement, Awareness, and Value and Goal 3b: Optimize ASHRAE's Organizational Systems and Structures to Increase Capacity, Efficiency, and Effectiveness. Note that this would be a capital expenditure.

**Fiscal Impact:** \$25,000 (Note: time and associated cost saved by members and staff is not included in this figure).

**TechC Vote:** 13-0-0, CNV

It was moved by Rick Hermans that:

**M5**

Technology Council add the amount of \$125,000 to the 22-23 Technology Council proposed capital budget for the automation of the Functional Group Evaluation and Functional Activity Forms.

**Background:** TAC has been working to increase the effectiveness and relevance of the Functional Groups (FG) as part of the Reorganization. As part of this effort, volunteers have created functional evaluation spreadsheets to monitor the performance the FGs and to collect data from the activity forms. This proposal would automate the process and facilitate creation of reports to identify trends. This automation will enhance further reorganization efforts within the FG's through a management oversight dashboard. ASHRAE staff has reached out to the outside contractor that developed the online comment database for a cost estimate, and, if the project is approved, a detailed specification will be created with the intent for the project to start July 1, 2022. This effort meets the Society Strategic Plan Goal 2c: Leverage Technology to Increase Member Engagement, Awareness, and Value and Goal 3b: Optimize ASHRAE's Organizational Systems and Structures to Increase Capacity, Efficiency, and Effectiveness.

**Fiscal Impact:** \$125,000 (Note: time and associated cost saved by members and staff is not included in this figure).

Council discussed the motion and some questions and concerns were highlighted. The information in these activities forms is used and needed. While it was suggested that perhaps this could be pushed out to 2023, it was also noted that this is all a manual

process now.

**TechC Vote:** 13-0-0, CNV

**OPS Information Items:** The full OPS report can be found on Basecamp as [ASHRAE Technology Council/Docs and Files/Meetings 2022/22 2021\\_11\\_04 TechC Fall Meeting, 04A OPS Report to TechC 11-2-2021 Final](#).

Mr. Hermans highlighted the following from information from the report:

1. An update was provided on the OPS meeting held on Nov. 2, 2021. OPS was unable to vote on a Rule of the Board change and a letter ballot was issued for that change on 11/2/21. OPS members returned the letter ballot, all voting yes to approve that the Rule of the Board 1.300, Position Documents and Public Policy Issue Briefs, be revised as distributed. *Secretary's Note: This ROB change was subsequently letter balloted and approved by Tech Council.*
2. As part of its duties assigned by the TechC MOP, OPS conducted a strategic planning session during the November 2, 2021 meeting. Tech Council Chairman Tim McGinn summarized the five trends suggested to the OPS committee into three major areas: Climate Change, ASHRAE responses to Pandemics, and the free dissemination of ASHRAE standards. Committee chairs offered numerous issues that are either currently in development or should be in the near future:
  - a. Infectious aerosols: detection and control.
  - b. Standard method of accounting for carbon in the built environment.
  - c. The conservation of the efficient use of, and protection of water in buildings.
  - d. A clear definition and explanation of comfort in the built environment.
  - e. The adoption of ASHRAE residential standards by authorities having jurisdiction.
  - f. Joint efforts with other NGOs on IEQ and whole life carbon.
  - g. A growing and potentially permanent trend towards working from home: what are the implications for residential buildings?
  - h. Environmental smoke and how it affects the indoor environment.
  - i. The effects that infectious aerosols have on large gathering spaces such as community of faith buildings.
  - j. With respect to how ASHRAE struggles with developing solutions:
    - there are issues of institutionalized silos within our structure that inhibit collaboration;
    - there are issues of short-term thinking that comes from the loss of institutional memory among committees caused by the annual turnover of leadership;
    - there are issues of a tendency to become mute on fast developing technology issues that we haven't prepared for: an example being the proliferation of unproven air disinfection manufactured products.

Many of these issues are being addressed currently by committees under Technology Council. Yet the effectiveness of our efforts is dependent upon good coordination of often uncoordinated work. OPS subcommittee will take up the task of attempting to itemize and prioritize these work efforts in the second half of this Society Year and issue a report at the Annual Conference.

## B. SPECIAL PROJECTS

No report was provided. Special Project will report at the Winter meeting in Las Vegas.

## C. DOCUMENT REVIEW

Sarah Maston reported on DRSC activities. The full DRSC report can be found on Basecamp as [ASHRAE Technology Council/Docs and Files/Meetings 2022/22 2021\\_11\\_04 TechC Fall Meeting, 04C – DRSC Rprt to TechC.21F](#)

It was moved by Sarah Maston that:

- M6** Technology Council recommend that the Board of Directors (BOD) approve the revised Position Document titled, *Limiting Indoor Mold Growth and Dampness in Buildings Systems (04C-A)*.

**BACKGROUND:** This PD was reviewed by cognizant committees, EHC and TC 1.12. The PD is in a newly developed position document format detailed in the motion below.

**TechC Vote:** 13-0-0, CNV

**AI#1 – Editorial Change to be made to PD Limiting Indoor Mold Growth and Dampness in Building Systems from 15 C to 15.6 C.**

It was moved by Sarah Maston that:

- M7** Technology Council approve changes to the Technology Council Reference Manual (**04C-B**).

**BACKGROUND:** These changes update the position document template in the Reference Manual to make it consistent with the recently submitted *Limiting Indoor Mold Growth and Dampness in Buildings Systems* PD. Part of the reasoning for this new format was summarized in Attachment **04C-C** and focused on the intended use and audience of these PDs. This format is better suited to address intended use of ASHRAE PDs, eliminates repeated information, and places most important details (positions and recommendations) at the front of the document. DRSC noted there are several PDs currently being written or revised. These PDs are well along and should be given the option of complying to the currently approved PD or the new format.

- M7A** It was moved by Rick Hermans and seconded by Heather Platt Gullledge that the motion be postponed.

**TechC Vote:** 4-9-0, CNV, **Motion 7A to postpone failed.**

Alice Yates noted that GAC has suggestions on policy documents, but GAC has not discussed.

After continued discussion Sarah Maston withdrew the motion,

**AI#2 – DRSC to work with GAC to finalize potential new PD format and send to OPS.**

#### 4. STANDING COMMITTEE REPORTS

##### A. STANDARDS

Chair Rick Heiden presented the Standards Committee report to Tech Council. The full report can be found on Basecamp as [ASHRAE Technology Council/Docs and Files/Meetings 2022/22 2021\\_11\\_04 TechC Fall Meeting, 05A StdC Report to TC Oct 19 2021](#)

It was moved by Adrienne Thomle and seconded by Jaap Hogeling that:

- M8** Proposed changes to the title, purpose, and scope (TPS) for ANSI/ASHRAE/IES Standard 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, be approved as shown in Standards Committee Report Attachment A

**TechC Vote:** 12-1<sup>1</sup>-0-, CNV

Rick Heiden highlighted the following StdC information items.

1. Standards Committee approved and will recommend that the BOD approve the following for publication:
  - a. BSR/ASHRAE Addendum *aa* to ANSI/ASHRAE Standard 62.1-2019 *Ventilation for Acceptable Indoor Air Quality*
  - b. BSR/ASHRAE Standard 105-2014R, *Standard Methods for Determining, Expressing, and Comparing Building Energy Performance and Greenhouse Gas Emissions*
  - c. BSR/ASHRAE Addendum *a* to Standard 147-2019, *Reducing the Release of Halogenated Refrigerants from Refrigerating and Air-Conditioning Equipment and Systems*
2. Standards Committee approved and will recommend that the BOD approve the following Title, Purpose and Scope and that a new Guideline Project Committee be formed:

**TITLE:** Design and Construction Practices for Controlling Humidity in Residential Buildings

**1. PURPOSE:**

The purpose of this guideline is to provide guidance and best practices for controlling moisture and humidity, in the design and construction of new residential buildings.

**2. SCOPE:**

This guideline is to assist in the design and construction of new residential dwellings (e.g., single family attached and detached, and multifamily). It covers all systems and spaces including attics, basements, crawl spaces, and common areas in multifamily housing and applies to all climate zones. The guideline is to address building performance testing and diagnostic considerations and best practices. The guideline excludes buildings with transient occupancies such as hospitality and dormitory facilities and the building operational phase. It does not incorporate guidance for testing/diagnostic or remediation/ restoration practices after the building is occupied.

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<sup>1</sup> Rick Hermans voted no as he felt the new standard was not required.

3. Standards Committee approved and will recommend that the BOD approve the following Title, Purpose and Scope and that a new Standard Project Committee be formed:

**TITLE:** Schema-Based Building Data Model Protocols

**PURPOSE:** Define building data structures and conventions for data exchange among building performance and HVAC&R software.

**SCOPE:**

This standard applies to schema-based building data mode

4. Standards Committee approved and will recommend that the BOD approve the following Title, Purpose and Scope and that a new Standard Project Committee be formed:

**TITLE:** Testing, Evaluating, and Reporting of Phase Change Materials Performance

**PURPOSE:** To provide a test method to evaluate the performance of Phase Change Materials (PCMs). This standard also provides a method of reporting the performance of different phase change materials in a standardized way based on laboratory testing.

**2. SCOPE:**

1. This standard covers the testing and evaluation of Phase Change Materials (PCM) thermal and life-cycle performance.
  2. This standard includes:
    - Uniform method of testing
    - Identification of testing equipment for performing such testing.
    - Identification of data required and calculations to be used.
    - Identification of reporting method to be used.
    - Criteria for determining the life cycle performance.
    - Definitions and Terminology
  3. This standard does not cover thermal energy storage system-level evaluation.
5. Standards Committee approved and will recommend that the BOD approve the following Title, Purpose and Scope and that a new Standard Project Committee be formed:

**TITLE:** Method of Testing In-Room Ultraviolet Devices and Systems for Microbial Inactivation on Surfaces in a Test Room

**PURPOSE:** This standard establishes a test method for evaluating the efficacy of ultraviolet disinfection systems for microbial inactivation on multiple surface locations in a test room.

**SCOPE:**

2.1 The standard applies to ultraviolet devices and systems using only germicidal ultraviolet energy for disinfection.

2.2 The method of test specifies selected indicator microorganisms and defines procedures for inoculating test carriers in a room-scale test chamber.

2.3 The method of test defines the test carrier quantity and positions in the test room.

- 2.4 This standard provides a method for counting the number of viable microorganisms on the test carriers before and after ultraviolet inactivation.
- 2.5 This standard establishes protocols and minimum requirements for the materials and equipment required to conduct the tests, defines methods of calculating and reporting results obtained from the test data, and establishes a reporting system to be applied to in-room devices and systems covered herein.
- 2.6 This standard does not address the health and safety effects of operating devices and systems in an occupied room.
6. Standards Committee approved proposed Title, Purpose and Scope (TPS) changes to the following documents:
- ASHRAE Guideline 1.1, *HVAC&R Technical Requirements for the Commissioning Process*
  - ANSI/ASHRAE Standard 17, *Method of Testing Capacity of Thermostatic Refrigerant Expansion Valves*
  - ANSI/ASHRAE Standard 185.2, *Method of Testing Ultraviolet Lamps for Use in HVAC&R Units or Air Ducts to Inactivate Microorganisms on Irradiated Surfaces*
  - BSR/ASHRAE Standard 230P, *Commissioning Process for Existing Systems and Assemblies*
7. Standards Committee approved the revision of the following Standards and Guideline documents and the formation of new project committees:
- ANSI/ASHRAE/ACCA Standard 180-2018, *Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems*
  - ANSI/ASHRAE Standard 204-2020, *Method of Test for Rating Micro Combined Heat and Power Devices*
8. Appeals Updates/Formal Complaints:
- Currently there are no active appeals at ASHRAE or appeals that require action from ASHRAE. ASHRAE was successful in its initial defense of addendum y to ANSI/ASHRAE Standard 62.2 at the ANSI ExSC level. The appellant has chosen to appeal to the Appeals Board at ANSI. There is no additional action for ASHRAE at this time.
  - The formal complaint against SSPC 62.2 will proceed to Technology Council for consideration. Standards Committee approved a response to Mr. Delaquila's complaint, but he maintained that his complaint had not been addressed by the response. *Secretary's note: A response was sent to the complainant on December 1, 2021. The matter is now closed.*
9. StdC supported a request by CIS Chair, Pat Graef, to add an additional member to CIS to help with achieving quorum. A review of potential candidates is underway and a request for approval will be made to Tech Council Chair, Tim McGinn, in the near future.
10. StdC formed a digital Ad hoc aimed at improving the user experience while interfacing with ASHRAE Standards documents, training materials and procedures.

## **B. RESEARCH ADMINISTRATION**

RAC Chair, Michael Pouchak, reported on the committee's activities. The full report can

be found on Basecamp as [ASHRAE Technology Council/Docs and Files/Meetings 2022/22 2021 11 04 TechC Fall Meeting. 5B-RAC-Fall Meeting Report and Info ItemsNewMbos F21.r3.](#)

There were no motions brought forward for consideration. There was discussion regarding the new Research Strategic plan and a subsequent letter ballot was issued for approval by Technology Council.

1. No Nominations were solicited this year for the *Service to ASHRAE Research Award*. The new approach is for each RAC Research Liaison(RL) to identify the most effective Research Subcommittee Chair from their section and instead of awarding a trophy, the RL will present a certificate to that Research Subcommittee Chair instead.

## 2. RAC & RESEARCH BUDGET

Total commitments for the Research Program are \$6,263,721 and the potential expenses for SY 21-22 are currently \$1,631,769 with a budget this year of \$1,300,000. The three new projects (1703, 1831, and 1865) that were approved at the 2020 Virtual Annual meeting or prior have now been contracted and are underway.

Now that the AHR 2022 Expo for Las Vegas is on track to occur in January 2022, RAC released for bid three new projects (TRP-1923, TRP-1900, and TRP-1874) that will all support weather data needed for the next edition of ASHRAE Fundamentals Handbook volume.

RAC also quickly took steps to update the research page of the ASHRAE website to indicate that for SY 21-22 they will not be accepting any applications or nominations for the following grants and awards administered by RAC:

- Graduate Student Grant-in-Aid Program – Total potential payments this year to past GIA recipients \$103,000 and is broken down as follows: SY17-18 \$20,500, SY18-19 \$22,500 and SY19-20 \$60,000. The total of \$103,000 closes-out all potential commitments. However, not all GIA recipients go to the effort to attend a Society meeting or write and publish a technical paper on their research to earn the final two payments.
- New Investigator Award – The award spans three years and has a total value of \$125,000 per recipient. The remaining balance to pay this year is \$25,000 to the third-year recipient. By not awarding a NIA this SY, our total commitment to this award for the next SY will be \$75,000. The next year after that our total commitment will drop to \$25,000.
- Innovative Research Grant – This grant is similar in payment structure to the NIA above with three payments spread over 3 years. No recipient was selected for SY 2021 so the total remaining commitment for this SY is \$75,000 and there will be no obligations for this grant until the grant program is restarted.

These actions free up an additional \$250k to help reduce the large backlog of 26 TC developed research projects that have been waiting to bid since spring 2020. RAC hopes to post a large number of projects for bid in Spring 2022.

***AI#3 RAC to develop and present to Tech Council an implementation and monitoring plan for the new Research Strategic Plan for review at the Spring Tech Council Meeting.***

***AI#4 RAC to provide a review and summary of the progress made on the current Research Strategic Plan for review at the Annual Meeting.***

## C. TECHNICAL ACTIVITIES

TAC Chair, Larry Smith, reviewed with the council the committee's activities. The full report can be found on-line at Basecamp as [ASHRAE Technology Council/Docs and Files/Meetings 2022/22 2021\\_11\\_04 TechC Fall Meeting, 05C TAC Rprt to TechC 21F.](#)

No motions were presented for approval.

1. The roster, including leadership, has been approved for TG2.RAST (Reactive Air and Surface Treatment). This new TG will primarily serve as a home for air cleaning technologies not currently covered by other functional groups including PCO, ionization, and hydrogen peroxide. Specifically excluded is direct UV technology covered by TC 2.9. The first order of business will be to initiate work on a much-needed MOT.
2. TAC developed a series of Leadership Training block videos. Developed for use by TC leadership, they are a great resource for all of ASHRAE. These are now posted on the ASHRAE website (here). TAC is working with ASHRAE to make PDH credits available for those who participate.

***At#5 Tim McGinn will ask the Board Excom to officially review Victor Goldschmidt's leadership videos for consideration of promotion and working with the Professional Development Committee to add to ASHRAE course offerings.***

3. The new MTG.Resiliency (RES) has met. The primary task of this MTG will be to coordinate TC/TG/TRC activities related to resilience including finalizing a roadmap for ASHRAE to follow, prioritizing activities, and providing guidance to functional groups in developing their resilience plans. The MTG will develop documents as necessary to formalize resilience concepts and procedures.
4. TAC has engaged with the Decarbonization Task Force and is assisting the TF in helping to connect them with expertise among ASHRAE Functional Group (TCs/TGs/TRGs/MTGs) and membership for assistance.

## D. ENVIRONMENTAL HEALTH

EHC Chair, Luke Leung discussed the many ongoing EHC activities with the council. The full report can be found on Basecamp as [ASHRAE Technology Council/Docs and Files/Meetings 2022/22 2021\\_11\\_04 TechC Fall Meeting, 05D – EHC Rprt to TechC 21F.](#)

There were no motions presented for approval.

1. Updates on the *Infectious Aerosols, Limiting Indoor Mold Growth and Dampness in Buildings, Filtration and Air Cleaning, Indoor Carbon Dioxide*, position documents (PD) were reported to Document Review Subcommittee (DRSC). Highlights include the following:
  - a. EHC sent feedback related to their title, purpose, and scope (TPS) change and is awaiting a response.
  - b. EHC is reviewing the draft Indoor Carbon Dioxide PD with a Nov. 12<sup>th</sup> deadline.
  - c. EHC suggested the Filtration and Air Cleaning PD chair consider adding someone from the design community to the PD committee.



2. EHC developed and approved a new Emerging Issue Brief (EIB) titled “Increasing Dog Population in Offices”. It is posted on the EHC page of the ASHRAE website. ([www.ashrae.org/communities/committees/standing-committees/environmental-health-committee-ehc](http://www.ashrae.org/communities/committees/standing-committees/environmental-health-committee-ehc).)
3. The Epidemic Task Force (ETF) continues to meet monthly. Most activity is focused on external communications (predominantly with schools) and transition planning. The goal is to sunset the ETF at the end of 2021-2022 SY.

ETF discussions with the Department of Homeland Security have resumed with the goal of generating collaboration on research envisioned in the ASHRAE-DHS MOU.

EHC is working with ETF in channeling the lessons learned from the pandemic to ASHRAE TCs and publications. EHC also is helping to find a finding home for ETF developed guidance and to positioning to serve as resource for future issues.

4. EHC’s June 25<sup>th</sup> seminar titled “*Attitude and Technology Changes as A Result of Covid for the Reopening of Buildings*” is posted on the EHC page of the ASHRAE website. ([www.ashrae.org/communities/committees/standing-committees/environmental-health-committee-ehc](http://www.ashrae.org/communities/committees/standing-committees/environmental-health-committee-ehc).)
5. EHC has reached out to members of SSPC 62.1 to discuss higher-grade filter considerations (MERV-13+) for clean air indoors to preempt future issues such as climate change, pandemics, equity, chronic diseases, etc.
6. EHC offered comments on the MTG.HWBE (Health and Wellness in the Built Environment) report dated June 2021. The MTG will resubmit a revised report to EHC before January 2022.
7. EHC’s report to Tech Council from the Annual Meeting included a summary report on future health trends. EHC is currently working on the trends for this year and will submit a report before the Winter Meeting.
8. EHC continues to develop the team of external environmental health experts. This group will be involved in future health trend development. Two new members were recently added from AIHA. This group will meet next later in November.
9. ASHRAE’s role and relationship with the IEQ-GA is currently detailed in the IEQ-GA bylaws. IEQ-GA will have a representative from ASHRAE as determined by ASHRAE and an annual fee to participate. IEQ-GA has asked ASHRAE for someone to participate in their podcast.

#### **E. REFRIGERATION CPCC**

No report was provided.

#### **F. RESIDENTIAL**

RBC Chair, Richard Karg, reviewed with the council the committee’s activities. The full report can be found on-line at Basecamp [ASHRAE Technology Council/Docs and Files/Meetings 2022/22 2021\\_11\\_04 TechC Fall Meeting, 05F RBC Report to TechC 2021-11-004 -F](#).

No motions were presented for approval.

1. RBC has identified residential topics and issues that are not currently well covered with existing ASHRAE resources. The committee will now look to develop appropriate resources to address those topics and issues. Potential resources include Journal articles, Conference Program Seminars, Webinars, Training courses, Residential Issue Briefs (RIBs), Position Documents (PDs), proposed guidelines or standards, and research.
2. RBC has initiated work on a new *Residential Issue Brief* that will cover ventilation and IAQ in bedrooms. The brief will outline why the topic is important and how ASHRAE might address the issue.
3. RBC has initiated work on a proposal for a new ASHRAE 3-hour short course on the latest version of Standard 62.2. The completed proposal will be forwarded to the Training and Education Committee for consideration in Las Vegas.
4. Announcements on the newly approved *Residential Buildings Service Award* have been posted on ASHRAE social media accounts and in the Chapter Notes publication. The award recognizes excellence in volunteer service within ASHRAE focused on residential building issues over previous two society years. Submissions are due on December 1 and the winner will be announced after the Las Vegas meeting.
5. RBC reviewed some initial Google Analytics data for their web page in an effort to improve the information presented. Additional analytics data with more specific detail have been requested and will be reviewed by the Communications Subcommittee at their next meeting.
6. The RBC proposed guideline on the *Design and Construction Practices for Controlling Humidity in Residential Buildings* has been approved to move forward by Standards Committee. RBC will continue to support this effort as appropriate.
7. RBC is working with EHC on the plans for transitioning and maintaining the residential content from the Epidemic Task Force (ETF) to the larger ASHRAE structure once the ETF is dissolved.

## **5. SPECIAL COMMITTEE/LIAISON REPORTS**

### **A. GAC Liaison Report**

Billy Austin reported on GAC activities as follows:

1. GAC reviewed changes to the Rules of the Board with regards to the PPIB process to clarify the process and this was sent to Tech Council's OPS committee for review. These edits have been informally reviewed by SRC and they had no objections.
2. GAC has also been working likeminded organizations to solicit feedback from school districts regarding the various resources and materials published by the ETF.
3. GAC has also been working with Working Group on Task Force for Building Decarbonization to identify the resources and information public officials are asking for on the issue of decarbonization.

### **B. Finance Liaison Report**

Tim McGinn noted that the Finance Committee is actively working on initiatives and framework within the Strategic Plan.

**C. Society Planning Liaison Report**

Heather Platt-Gulledge gave a brief update. Society Planning has successfully set up liaisons for each Council and Standing Committee moving forward. Planning is also working on SP updates thru 2025. Tim McGinn and Heather Platt to ask Planning to have a RAP representative on the Society Planning Subcommittee in the future

**6. DOT REPORT**

Stephanie Reiniche, DOT, announced that Lilas Pratt would be retiring on March 4, 2022.

**7. NEW BUSINESS**

There was no new business to come before the Council.

**8. EXECUTIVE SESSION**

The discussion of the SSPC 62.2 complaint was held in executive session.

**9. NEXT MEETING**

Tech Council Las Vegas Winter Meeting - Wednesday, February 2, 2022

**10. ADJOURN**

There being no further business to come before the Council, the meeting adjourned at 11:00 AM.