



Shaping Tomorrow's  
Built Environment Today

## MINUTES

### RESEARCH ADMINISTRATION COMMITTEE MEETING WINTER MEETING

JUNE 27 & JULY 1, 2026

*Note: These draft minutes have not been approved and not the official, approved record until approved by the Research Administration Committee.*

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**JUNE 27 & JULY 1, 2026**

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**PRINCIPAL MOTIONS  
RESEARCH ADMINISTRATION COMMITTEE  
JUNE 27 & JULY 1, 2026**

| NO. | PAGE | MOTION                                                                                                                                                                                                                                                                                                                                 |
|-----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | 1    | The draft minutes of the RAC 2026 Spring meeting be approved as drafted.                                                                                                                                                                                                                                                               |
| 2   | 5    | The Appendix H to the RAC Reference Manual be revised as shown:                                                                                                                                                                                                                                                                        |
| 3   | 5    | The Appendix G (NIA) and Appendix H (IRG) to the RAC Reference Manual be revised as shown:                                                                                                                                                                                                                                             |
| 4   | 6    | The URP Disclosure Acknowledgement for in the RAC Research Manual be revised as shown:                                                                                                                                                                                                                                                 |
| 5   | 7    | the awards for the GIA each be doubled and that the RAC Reference Manual be changed as shown:                                                                                                                                                                                                                                          |
| 6   | 8    | <b>2015-RTAR</b> , Evaluation Method for Primary School Classroom Children's Thermal Comfort; TC 2.1, Physiology and Human Environment, <b>be returned</b> .                                                                                                                                                                           |
| 7   | 8    | <b>2016-RTAR</b> , Building the Evidence Base for Adaptive Comfort in Air-Conditioned Office Buildings; TC 2.1, Physiology and Human Environment, <b>be returned</b> .                                                                                                                                                                 |
| 8   | 8    | <b>1951-WS</b> , Development of Material Moisture Tolerance Criteria and Evaluation Methodology for ASHRAE Standard 160 to Control Structural Property Degradation of Common Sheathing Materials - TC 4.04, Building Materials and Building Envelope Performance, <b>be conditionally accepted</b> .                                   |
| 9   | 8    | <b>1963-WS</b> , Test procedure to measure in-situ chemicals emissions of labs equipment and processes - TC 9.09, Laboratory Ventilation, <b>be conditionally accepted</b> .                                                                                                                                                           |
| 10  | 8    | <b>1968-WS</b> , Optimize outside-air supply for passengers in a light-rail/subway car environment, TC 9.03 (Transportation Air Conditioning), <b>be returned</b> .                                                                                                                                                                    |
| 11  | 8    | <b>1979-WS</b> , Development of a Residential Thermal Comfort Model for Decarbonization in North America, TC 2.01, Physiology & Human Environment, <b>be returned</b> .                                                                                                                                                                |
| 12  | 9    | <b>1990-WS</b> , Optimizing Abbreviated Weather Year Files for Faster Simulation Time with Minimal Accuracy Loss, TC 4.2 , Climatic Information; co-sponsor; TC 4.7, Building Energy Modeling, <b>be returned</b> .                                                                                                                    |
| 13  | 9    | <b>1997-WS</b> , Missing Elements Characterizing Oil Related Air Contaminants in Aircraft Cabins - MECORAC, TC 9.03, Transportation Air Conditioning, <b>be returned</b>                                                                                                                                                               |
| 14  | 9    | <b>2008-WS</b> , Evaluating the Influence of Challenge Gas Composition, Mixture Composition and Concentration on Gas-Phase Clean Air Delivery Rate Measurements in Chamber Testing of Various Air Cleaner Technologies, TC 2.03, Gaseous Air Contaminants and Gas Contaminant Removal Equipment..., <b>be conditionally accepted</b> . |

|    |    |                                                                                                                                                                                                                                                                                    |
|----|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15 | 9  | RAC award URP-2002, Engineering Equations for Moist Air Transport Properties Research, to Kunick Consulting Engineers for a period of 24 months at a total cost to ASHRAE of \$59,000.                                                                                             |
| 16 | 12 | RAC award 1939-TRP, A tool to evaluate weather inputs for robust building performance analysis and design, is awarded to Colorado School of Mines for a period of 30 months at a total cost to ASHRAE of \$140,087                                                                 |
| 17 | 12 | RAC award 1955-TRP, Healthcare Anteroom Ventilation, to Syracuse University for a period of 24 months at a total cost to ASHRAE of \$192,222.                                                                                                                                      |
| 18 | 13 | RAC award 1999-TRP, Updating climatic design conditions for the 2029 ASHRAE Handbook – Fundamentals and ASHRAE Standard 169; to NeuMod Labs LLC for a period of 24 months at a total cost to ASHRAE of \$180,000.                                                                  |
| 19 | 13 | RAC award 2000-TRP, Develop cost and performance indexes to evaluate effectiveness of virtual airflow meters in HVAC application, to Texas A&M for a period of 24 months at a total cost to ASHRAE of \$192,340.                                                                   |
| 20 | 14 | RAC recommends that Technology Council appoint an ad hoc committee to develop an implementation plan for an ASHRAE data repository system to preserve, curate, disseminate, and ultimately leverage the data generated through ASHRAE-funded research and other ASHRAE activities. |
| 21 | 14 | The RAC Reference Manual be revised as shown to add guidance on how RAC can use artificial intelligence tools:                                                                                                                                                                     |
| 22 | 15 | Cary Simonson of the University of Saskatchewan be the recipient of the 2026-2027 Innovative Research Grant Award.                                                                                                                                                                 |

### **LIST OF ATTACHMENTS**

**Attachment A:** 2025-26 MBO Final report

**Attachment B:** ASHRAE Leadership presentation

**Attachment C:** RAC guidance documents – RAP changes

**Attachment D:** Review of the current URP procedures

**Attachment E:** List of possible Fall 2026 TRPs

**Attachment F:** Data Repository memo

### ACTION ITEMS – 2026 Annual Meeting

| No. | Responsibility                       | Action Item                                                                                                                                                         | Status |
|-----|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 1   | Mullen,<br>Kirkwood, Gray            | Review draft revisions to the RAC guidance documents to incorporate RAP as a subcommittee of RAC and to work with RAP to determine RAP's roles and responsibilities |        |
| 2   | Ziviani, Zheng,<br>Mullen            | Develop a mentorship program to seek volunteers and develop a structure for the training program                                                                    |        |
| 3   | Charneux,<br>Scott and<br>Katipamula | Collect feedback and propose changes to URP process                                                                                                                 |        |
| 4   | Charneux                             | Poll RLs for training in August                                                                                                                                     |        |
| 5   | RLs                                  | Reach out and work with TC chairs to prepare conditionally approved WSs before September 15 <sup>th</sup> for bid this Fall.                                        |        |
| 6   | RLs                                  | Update the RL Reminders list after Austin based on feedback and send back to staff                                                                                  |        |
| 7   | Staff                                | Explore if Society Rules Committee (SRC) had input on how the AI policy should be addressed by ASHRAE or by Committees                                              |        |

### SPRING 2026 MEETING

| No. | Responsibility                                                    | Action Item                                                                                                                   | Status |
|-----|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------|
| 4   | <b>Gray,</b><br>Landsberg,<br>Kirkwood,<br>Katipamula,<br>Ziviani | Establish a training example for authoring work statements and seek TC volunteers at breakfast to participate in development. | OPEN   |

## **RECURRING ACTION ITEMS (EACH MEETING)**

| <b><u>Responsibility</u></b>     | <b><u>Summary of Action</u></b>                                                                                                                                                                                                                                                                                       |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chair                            | Report to Technology Council on RAC's MBO Status.                                                                                                                                                                                                                                                                     |
| Research Liaisons                | Remind all TC chairs and research subcommittee chairs in section that a draft of all Work Statement and RTARs, and all later versions should be sent to their Research Liaison for review before information is passed on to the Manager of Research.                                                                 |
| RPS (Primary)<br>RAS (Secondary) | Review RTARs                                                                                                                                                                                                                                                                                                          |
| RAS (Primary)<br>RPS (Secondary) | Review Work Statements                                                                                                                                                                                                                                                                                                |
| RAS (Primary)<br>RPS (Secondary) | Review TRPs and URPs                                                                                                                                                                                                                                                                                                  |
| RPS (Primary)<br>RAS (Secondary) | Review and revise the Society's Research Implementation Plan based upon accepted RTARs.                                                                                                                                                                                                                               |
| Subcommittee<br>Chairs           | Report Status of assigned MBOs.                                                                                                                                                                                                                                                                                       |
| Staff                            | Distribute copies of Technology Council's Action Items and Motions affecting RAC.                                                                                                                                                                                                                                     |
| BOD ExO                          | Report to the RAC Chair BOD's Actions and Motions affecting RAC.                                                                                                                                                                                                                                                      |
| Staff                            | Forward new URPs to RAS Chair to help identify a champion for the URP on RAC based on members background and experience. The RAC URP Champion will either help select a cognizant TC to review the URP or return the URP with a recommendation that it not be reviewed further as a possible ASHRAE research project. |

## **RECURRING ACTION ITEMS (ANNUAL MEETING)**

| <b><u>Responsibility</u></b> | <b><u>Summary of Action</u></b>                                  |
|------------------------------|------------------------------------------------------------------|
| Chair<br>meeting.            | Invite new RAC members to meeting and any training sessions at   |
| Incoming Chair               | Finalize MBOs and roster assignments. Set date for fall meeting. |

|     |                                                               |
|-----|---------------------------------------------------------------|
| RAS | Review Invited Innovative Research Grant (IRG) Full Proposals |
|-----|---------------------------------------------------------------|

**RECURRING ACTION ITEMS**  
**(FALL MEETING)**

| <b><u>Responsibility</u></b> | <b><u>Summary of Action</u></b>                                                                                             |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| RAS                          | Plan Training Segment for Research Breakfast at Winter Meeting                                                              |
| RLs                          | Review “Service to ASHRAE Research Award” nominations submitted TC chairs and select best nomination for RAC consideration. |
| MORTS                        | Prepare semi-annual report to RAC by December 15.                                                                           |

**RECURRING ACTION ITEMS**  
**(WINTER MEETING)**

| <b><u>Responsibility</u></b> | <b><u>Summary of Action</u></b>                      |
|------------------------------|------------------------------------------------------|
| RPS                          | Review New Investigator Award Nominations            |
| RPS                          | Review Homer Addams Award Nominations                |
| RPS                          | Review Innovative Research Grant (IRG) Pre-Proposals |

**RECURRING ACTION ITEMS**  
**(SPRING MEETING)**

| <b><u>Responsibility</u></b> | <b><u>Summary of Action</u></b>                                |
|------------------------------|----------------------------------------------------------------|
| RPS                          | Review Grant-In-Aid Applications                               |
| MORTS                        | Invite new incoming RAC members to the Annual meeting.         |
| MORTS                        | Prepare semi-annual report to RAC by May 15.                   |
| RPS                          | Plan Training Segment for Research Breakfast at Annual Meeting |

**MINUTES  
RESEARCH ADMINISTRATION COMMITTEE  
JUNE 27 & JULY 1, 2026**

**MEMBERS' PRESENT:**

Jin Wen, Chair  
Roland Charneux, Vice Chair  
Dennis Landsberg, Chair RAS  
Chris Gray, Chair RPS  
Srinivas Katipamula, RL Section 1.0  
Steve Sill, RL Section 2.0  
Zheng O'Neill, RL Section 3.0,  
Davide Ziviani, RL Section 4.0  
Douglas Scott, RL Section 5.0  
Matthew Mullen, RL Section 6.0  
Chad Kirkwood, RL Section 7.0  
Carl Huber, RL Section 8.0  
Conor Murray, RL Section 9.0  
Xudong Wang, AHRI Consultant  
Pat Marks, BOD Ex-Officio  
Devin Abellon, Coordinating Officer

**GUESTS:**

Wyatt Hahn  
Kathleen Owen, Incoming Member  
Pat Graef, Incoming Member  
Som Shrestha, Incoming Member

**ASHRAE STAFF**

Donna Daniel, AMOR  
Steve Hammerling, AMORTS

**MEMBERS ABSENT:**

WenBin Ng, RL Section 10.0

**A. CALL TO ORDER & INTRODUCTIONS**

Chair Wen called the meeting of the committee to order Saturday, June 27, 2026 at 8:00 AM CDT. RAC quorum was confirmed.

**B. ASHRAE VALUE STATEMENT**

*In ASHRAE meetings, 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 shall avoid all real or perceived conflicts of interest. Our culture is one of inclusiveness, acknowledging the inherent value and dignity of each individual. We celebrate diverse and inclusive communities, understanding that doing so fuels better, more creative and more thoughtful ideas, solutions and strategies for the Society and the communities our Society serves. We respect and welcome all.*

[Code of Ethics](#)

[Core Values](#)

[Diversity Statement](#)

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

No changes were made to the agenda sent ahead of the meeting.

**D. APPROVAL OF MINUTES**

It was moved (Gray) and seconded (Katipamula) that,

(1) The draft minutes of the RAC 2026 Spring meeting be approved as drafted.

**BACKGROUND:** Draft minutes distributed on Basecamp on June 22, 2026.

**MOTION 1 PASSED RAC: 10-0-2-1, (14) CNV**

**E. CHAIR'S REPORT**

- a) Disposition of Motions from Last Meeting or Letter Ballots
  - 1. No motions from RAC spring meeting required higher body approval
- b) New & On-going Action Items Assigned by Tech. Council
  - 1. None
- c) New Information Items:
  - 1. PMS or PES Training Webinar Schedule  
RAC would plan to have PMS/PES training in early May and early December before PES' are asked for evaluations. It would include all PMS and PES roster members active at that time. The plan would be for a video with a Q&A session to follow. Landsberg suggested emphasizing missing cover sheets in the training.
  - 2. RAC Onboarding  
RLs were invited to reach out to incoming RLs ahead of the Annual Meeting to help get them up to speed quicker in their new positions. Subcommittee chairs encouraged to invite incoming members to the subcommittee to which they were assigned for the next SY. Thanks to those incoming members who were able to participate at the breakfast, TC meetings, RAC meetings, etc. New RL training will be planned for Fall.
  - 3. Future of ASHRAE Annual Conference (FOAC) ad hoc  
A final report from the FOAC ad hoc was made available on RAC Basecamp. The BOD is reviewing the recommendations at their meeting Sunday in Austin. RAC can provide and collect feedback from TCs at the meeting.
- d) MBO Status Report (**Attachment A**)
  - 1. Update RAC MOP, Reference Manual to specify rules for formation/operation of RAP to develop research strategic plan  
  
RAC members (Wen, Zheng, Mullen) were asked to review draft revisions to the RAC guidance documents to incorporate RAP as a subcommittee of RAC and to work with RAP to determine RAP's roles and responsibilities (**Action Item 1**). RAC can consider at a future meeting.
  - 2. Establish a standing RTAR/WS writing mentorship program.  
Research Subcommittee chairs were surveyed to identify their interest and participation in a mentoring program. RAC is compiling a list of potential members and recruiting members at Research Breakfast. RAC also considering 'office hours' and panel for Winter Meeting to address questions. Ziviani, Gray, Kirkwood agreed to develop a mentorship program to seek volunteers and develop a structure for the training program (**Action Item 2**).  
  
Mentors could include volunteers, past Service to ASHRAE Research Award winners, past RAC/RAP members, authors of past RTARs/WSs that were very well written.
  - 3. Establish a routine to review budget guidelines  
RAC passed motion in LV to increase limit to \$450k that did not pass. RAC will reconsider if another motion is appropriate

4. Establish a central location for all training materials.  
Training materials available on ASHRAE website (<http://www.ashrae.org/technical-resources/research>) and Research Subcommittee Chairs Basecamp (<https://3.basecamp.com/3106353/buckets/25778014/vaults/4531531073>)
5. Improving RAC feedback on RTARs/WSs  
RAS/RPS chairs now being asked to summarize comments after discussion to develop comprehensive list of comments to be addressed for approval. Training continues to emphasize the relationship and role of RAC and RLs to TCs developing ASHRAE projects. Training could include common issues, frequent return comments, etc.
6. Identify the best mechanism to provide a data repository for RPs  
RAC developed a memo summarizing the effort. Feedback was solicited and received from various ASHRAE staff. RAC considering a motion to appoint a task group to formalize a project scope, timeline and cost. RAC will consider a formal motion later in this meeting.
7. Establish new requirements for lay description of research projects and best research findings from Research chairs.  
RAC reached out to PIs of recently completed projects and developed 2 examples of completed slides. RAC has requested feedback from RP and reached out to ASHRAE editor for possible inclusion in ASHRAE Journal or Insights. When RP approves format with examples, RAC can add this slide as a research project deliverable.

#### **F. BOD EX-OFFICIO & COORD. OFFICER**

Marks presented the ASHRAE Leadership presentation (**Attachment B**). Highlights of interest to RAC include:

- New ASHRAE calendar goes live July 15, 2026. All committees are encouraged to use ([www.ailogistics.com/societycalendar-ashrae/](http://www.ailogistics.com/societycalendar-ashrae/))
- Vision 2035 is now out – [www.ashrae.org/vision2035](http://www.ashrae.org/vision2035)
- ASHRAE 2025-2028 Strategic Plan [www.ashrae.org/strategicplan](http://www.ashrae.org/strategicplan)
- \$2.8M raised through Research Promotion Campaign last year, \$2.0M for ASHRAE research
- New Center of Excellence for Indoor Environmental Quality – [www.ashrae.org/ceieg](http://www.ashrae.org/ceieg)
- New proposed dues rates in spring ballot – [www.ashrae.org/2026bylaws](http://www.ashrae.org/2026bylaws). Vote by June 27
- Nominations for elected positions are due September 18, 2026 here
- New Artificial Intelligence Framework resource on ASHRAE website ([here](#))

## G. ACTION ITEM TRACKING AND PRELIMINARY REVIEW OF OPEN ACTIONS

### SPRING 2026 MEETING

| NO | RESPONSIBILITY                                 | ACTION ITEM                                                                                                                         | Status   |
|----|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------|
| 1  | ExCom                                          | Discuss and schedule PMS/PES training for after Annual Meeting.                                                                     | Complete |
| 2  | Staff                                          | Send a list of recently completed research projects to Gray to recruit volunteers to write a Research Promotion slide as an example | Complete |
| 3  | RAC                                            | Use the Research Chairs Breakfast in Austin as a forum to gather input and clearly communicate the intent behind existing rules     | Complete |
| 4  | Gray, Landsberg, Kirkwood, Katipamula, Ziviani | Establish a training example for authoring work statements and seek TC volunteers at breakfast to participate in development.       | Ongoing  |
| 5  | Katipamula, Wen                                | Draft a formal response letter to TC 1.4 summarizing RAC's discussion and planned actions                                           | Complete |

### WINTER 2026 MEETING IN LAS VEGAS

| NO    | RESPONSIBILITY      | ACTION ITEM                                                                                                                                      | Status   |
|-------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| LV-2  | Staff               | Revise RAC Reference Manual to include ASHRAE Artificial Intelligence policy to help ensure compliance in reviewing research and award proposals | Complete |
| LV-3  | Staff               | Add section in IRG procedures to indicate only 1 <sup>st</sup> two pages of pre-proposals would be reviewed.                                     | Complete |
| LV-5  | Wen Bin Ng          | Coordinate preliminary RAC review of URP-2009.                                                                                                   | Complete |
| LV-6  | Wen Bin Ng          | Coordinate preliminary RAC review of URP-2010.                                                                                                   | Complete |
| LV-8  | Scott, Charneux, Ng | Participate on subcommittee to review current URP procedures and see if things can be streamlined                                                | Complete |
| LV-14 | Staff               | Post Research Portal training to Basecamp in Spring                                                                                              | Complete |
| LV-15 | Gray, Scott, Mullen | Review the Research Portal development.                                                                                                          | Complete |

## H. Proposed & Possible ROB, MOP, Reference Manual, Research Manual Changes

- a) Action Item LV2 – Staff - Revise RAC Reference Manual to include ASHRAE Artificial Intelligence policy to help ensure compliance in reviewing research and award proposals.

RAC discussed proposed changes to the RAC Reference Manual posted to Basecamp. There is no Artificial Intelligence policy in the ASHRAE ROB to reference, but the

language is consistent with the ASHRAE Policy for Use of Artificial Intelligence. RAC would review and consider formal changes Wednesday.

- b) Action Item LV3 – Staff - Add section in IRG procedures to indicate only 1st two pages of pre-proposals would be reviewed.

It was moved (Gray) and seconded (Katipamula) that,

(2) The Appendix H to the RAC Reference Manual be revised as shown:

Selection Process:

A two-phase process managed by RAC will be used to select grant awardees. The initial phase will entail the evaluation of pre-proposals consisting of a two-page whitepaper and a two-page curriculum vitae for the principal investigator (PI). Please note that only the first two pages of the whitepaper, and the first two pages of the curriculum vitae will be reviewed. The whitepaper should consist of: Problem Statement, Innovative Research Concept, Scope, Methodology, Specific Outcomes of Research, and Research Team. Pre-proposals may be invited once a year. The evaluation of pre-proposals will be organized through RAC's Research Planning Subcommittee and will be performed in conjunction with the RAC Winter meeting held each year.

**BACKGROUND:** The change is to make it clear that only two pages will be reviewed in the short proposal to assure uniformity and brevity of IRG pre-proposals.

#### **MOTION 2 PASSED RAC: 9-0-3-1, (14) CNV**

- c) MBO #1 - specify rules for formation/operation of RAP to develop research strategic plan (**Attachment C**)

RAC established an ad hoc committee to review and incorporate RAP related changes.

- d) Action Item LV11 – Develop C&P, language to IRG/URP/NIA submittals to ensure no double funding

It was moved (Gray) and seconded (Katipamula) that,

(3) The Appendix G (NIA) and Appendix H (IRG) to the RAC Reference Manual be revised as shown:

Appendix G

Support and Commitments:

An ASHRAE New Investigator Award carries a base grant of \$50k per year in the first two years with an additional award of \$25K available in the 3rd year if it is matched by an industrial contributor. The maximum award from ASHRAE would be \$125K and the maximum available to the recipient would be \$150K. It should be noted that the university should not use the award for overhead/indirect costs. The award should only be used for direct costs associated with the NIA recipient research. This award is exclusively for research that is not being considered for, and has not already received, funding elsewhere. Duplicate or overlapping financial support for the same research scope, tasks, or deliverables is prohibited. The nominees agree that if funding is awarded by ASHRAE, they will not accept duplicate funding for the same scope of work from another source. The industrial support must be from industries engaged in activities related to ASHRAE's areas of interest. New Investigators who transfer at any time, prior to or during the period of their grant, to institutions that do not meet the institutional eligibility criterion must resign their awards.

## Appendix H

### ASHRAE Innovative Research Grant

#### Purpose:

The ASHRAE Innovative Research Grant was established to provide seed funding for novel research which does not fit within the current TC research activities but deemed to have the potential to significantly advance the state-of-the-art in heating, ventilating, air-conditioning and refrigeration engineering. The idea is to encourage out-of-the-box research to complement the research proposed and guided by technical committees. It is neither meant to supplement ongoing research nor support (partially or fully) the development or improvement of a commercial product. This grant is exclusively for research that is not being considered for, and has not already received, funding elsewhere. Duplicate or overlapping financial support for the same research scope, tasks, or deliverables is prohibited. The proposer agrees that if funding is awarded by ASHRAE, they will not accept duplicate funding for the same scope of work from another source. It is rather targeted to provide seed money to encourage 'blue sky research' that may otherwise not be funded initially through other means.

**BACKGROUND:** RAC members and staff reviewed existing C&Ps from other organizations which were quite comprehensive, would take some development and potentially burdensome to applicants, so the language above is proposed to add to guidance for the NIA and IRG.

#### **MOTION 3 PASSED RAC: 10-0-2-1, (14) CNV**

It was moved (Gray) and seconded (Katipamula) that,

(4) The URP Disclosure Acknowledgement for in the RAC Research Manual be revised as shown:

#### UNSOLICITED RESEARCH PROPOSAL (URP) DISCLOSURE ACKNOWLEDGEMENT

5. This funding is exclusively for research that is not being considered for, and has not already received, funding elsewhere. Duplicate or overlapping financial support for the same research scope, tasks, or deliverables is prohibited. The Principal Investigator agrees that if funding is awarded by ASHRAE, they will not accept duplicate funding for the same scope of work from another source.

**BACKGROUND:** RAC members and staff reviewed existing C&Ps from other organizations which were quite comprehensive, would take some development and potentially burdensome to applicants, so the language above is proposed to add to guidance for the URP.

#### **MOTION 4 PASSED RAC: 10-0-2-1, (14) CNV**

#### e) GIA award

Research Promotion and ASHRAE Foundation have inquired about the possibility of increasing the Graduate In-Aid (GIA) award amount. This grant is highly popular among young ASHRAE researchers, but the funding amount has remained stagnant at \$10,000 for the past 20 years. Donors respond strongly to support the next generation of HVAC&R researchers.

It was moved (Katipamula) and seconded (Mullen) that,

(5) the awards for the GIA each be doubled and that the RAC Reference Manual be changed as shown:

## Appendix E

### Overview of Award

....

Multiple awards (typically 10 to 25) are made each year in the amount of up to ~~\$10,000~~ **\$20,000**. The awards are meant for the students' personal use while pursuing an HVAC&R related education. The goal of the Grant-In-Aid program is to encourage outstanding graduate students to become involved in ASHRAE, its research and establish careers that include active engagement within and continued contributions to Society activities. Part of the award will be used to pay for the student's travel and registration for one Society Winter or Annual meeting, or any ASHRAE sponsored Topical Conference within the 18 months following notification of award. An award in the amount of ~~\$5,000~~ **\$10,000** will be paid upon confirmation of the student's enrollment. An additional ~~\$5,000~~ **\$10,000** shall be paid upon receipt of a report prepared by the awardee documenting his/her attendance at one of the next three ASHRAE Society meetings or ASHRAE sponsored Topical Conference following the award; these funds will be retained by ASHRAE if the awardee does not attend one of these meetings.

In addition, grant-in-aid recipients are eligible for an additional ~~\$1,500~~ **\$3,000** honorarium if they author and present a peer-reviewed paper at an ASHRAE Annual or Winter meeting or ASHRAE sponsored Topical Conference or submit an article that is published in the Science and Technology for The Built Environment. The presentation or publication must be based on the thesis/research supported by the grant-in-aid. The honorarium will be paid by the Manager of Research and Technical Services (MORTS) to the GIA recipient upon confirmation of presentation or publication of the paper.

**BACKGROUND:** The Grant-in-Aid has remained at \$10,000 for approximately 20 years, while graduate student living expenses, tuition, research costs, and conference travel have increased substantially. Increasing the award to \$20,000 would restore much of its lost purchasing power, maintain the prestige and competitiveness of the program, and make the support more meaningful to recipients. This adjustment would also strengthen ASHRAE's ability to attract and retain outstanding graduate students in HVAC&R, helping build the next generation of ASHRAE leaders. The Research Promotion Committee supports doubling the current Grant-in-Aid award amount, an increase that responds to rising costs of graduate research support while strengthening one of the most resonant elements of the campaign. Donors of all giving levels respond strongly to the opportunity to support the next generation of HVAC&R researchers. Doubling the award restores its purchasing power, deepens the impact on each recipient, and reinforces ASHRAE's investment in the pipeline of researchers who will sustain the work of the Society in the years ahead.

**FISCAL IMPACT:** RAC typically awards 20 GIA's each year, so the maximum expected fiscal impact would be \$230,000. Awards for 26-27 have already been made, so the new awards would start in SY 27-28.

### **MOTION 5 PASSED RAC: 10-0-1-2, (14) CNV**

RAC would report a motion to Operations Subcommittee to request funding in the 2027-28 SY.

**I. RTAR Review**

RPS chair Gray would develop a summary of comments for inclusion in letters to TCs to communicate results of RAC review.

It was moved (RPS) that,

(6) 2015-RTAR, *Evaluation Method for Primary School Classroom Children's Thermal Comfort*; TC 2.1, Physiology and Human Environment, be returned.

**MOTION 6 PASSED RPS: 6-0-0 CV**

It was moved (RPS) that,

(7) 2016-RTAR, *Building the Evidence Base for Adaptive Comfort in Air-Conditioned Office Buildings*; TC 2.1, Physiology and Human Environment, be returned.

**MOTION 7 PASSED RPS: 6-0-0 CV**

**J. Work Statement Review**

RAS chair Landsberg would develop a summary of comments for inclusion in letters to TCs to communicate results of RAC review.

It was moved (RAS) that,

(8) 1951-WS, *Development of Material Moisture Tolerance Criteria and Evaluation Methodology for ASHRAE Standard 160 to Control Structural Property Degradation of Common Sheathing Materials*; TC 4.04, Building Materials and Building Envelope Performance, be conditionally accepted.

**MOTION 8 PASSED RAC: 9-1-2-1, (14) CNV**

It was moved (RAS) that,

(9) 1963-WS, *Test procedure to measure in-situ chemicals emissions of labs equipment and processes* - TC 9.09, Laboratory Ventilation, be conditionally accepted.

**MOTION 9 PASSED RAC: 9-0-3-1, (14) CNV**

It was moved (RAS) that,

(10) 1968-WS, *Optimize outside-air supply for passengers in a light-rail/subway car environment*, TC 9.03 (Transportation Air Conditioning), be returned.

**MOTION 10 PASSED RAS: 5-0-0 CNV**

It was moved (RAS) that,

(11) 1979-WS, *Development of a Residential Thermal Comfort Model for Decarbonization in North America*, TC 2.01, Physiology & Human Environment, be returned.

**MOTION 11 PASSED RAS: 5-0-0 CNV**

It was moved (RAS) that,

(12) 1990-WS, *Optimizing Abbreviated Weather Year Files for Faster Simulation Time with Minimal Accuracy Loss*, TC 4.2, Climatic Information; co-sponsor; TC 4.7, Building Energy Modeling, be returned.

**MOTION 12 PASSED RAS: 5-0-0 CNV**

It was moved (RAS) that,

(13) 1997-WS, *Missing Elements Characterizing Oil Related Air Contaminants in Aircraft Cabins - MECORAC*, TC 9.03, Transportation Air Conditioning, be returned.

**MOTION 13 PASSED RAS: 5-0-0 CNV**

It was moved (RAS) that,

(14) 2008-WS, *Evaluating the Influence of Challenge Gas Composition, Mixture Composition and Concentration on Gas-Phase Clean Air Delivery Rate Measurements in Chamber Testing of Various Air Cleaner Technologies*, TC 2.03, Gaseous Air Contaminants and Gas Contaminant Removal Equipment; co-sponsors; SSPC145, Test Method for Assessing the Performance of gas-phase Air Cleaning Equipment, TG2.RAST, Reactive Air and Surface Treatment, SPC234 Method of Testing HVAC-Duct Mounted Devices and Systems and in-room Devices for Particle and Microorganism removal or Inactivation in a Chamber with Recirculating Duct System, be conditionally accepted.

**MOTION 14 PASSED RAC: 10-0-2-1 (14) CNV**

**K. Innovative Research Grant (IRG) Pre-Proposals**

IRG discussion was delayed until Wednesday meeting so all RAC members can complete scoring.

**L. Unsolicited Research Proposals (URPs)**

a) 2002-URP, *Engineering Equations for Moist Air Transport Properties Research*

It was moved (Scott) and seconded (Katipamula) that,

(15) RAC award URP-2002, *Engineering Equations for Moist Air Transport Properties Research*, to Kunick Consulting Engineers for a period of 24 months at a total cost to ASHRAE of \$59,000.

**BACKGROUND:** TC 1.1 evaluated the URP and recommended funding the project which builds on previous ASHRAE research performed.

**MOTION 15 PASSED RAC: 10-0-1-2 (14) CNV**

b) 2009-URP, *Impact of an UVC-based air purifier on airborne surrogates of eukaryotic viruses significant for pig and farmers' health*

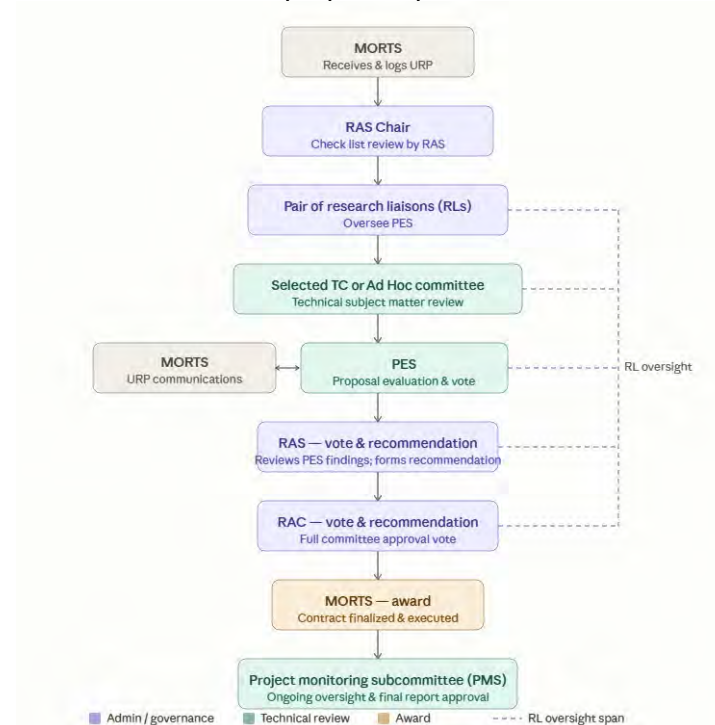
TC 2.9 reviewed the URP and recommended that RAC not fund the URP. Reviewers commented that while there is existing research on UVC-based air purifiers, the specific applications for pigs and farmers are limited. However, they suggested that this would be more appropriate as an open bid project. TC 2.9 offered to review this and submit it as an RTAR if desired.

Based on the TC review, RAC declined to consider URP-2009 for funding.

- c) 2010-URP, *High-Sensitivity IEQ Monitoring via Air Conditioner Condensate Analysis*  
TC 2.3 reviewed the URP and recommended that RAC not fund the URP. Reviewers noted that while ASHRAE could sponsor a feasibility study for this project, it should undergo the regular bid process. We recommend that TC 2.3 submit this as an RTAR.

Based on the TC review, RAC declined to consider URP-2010 for funding.

- d) URP Procedure Review (Action Item LV-8)  
Scott presented his review of the current URP procedures (**Attachment D**) in the Research Manual. There are many comments but generally, the URP process needs to be scrutinized at least at the level of an RTAR with wide RAC involvement. The following flowchart summarizes a proposed process:



RAC members were asked to review for a discussion on Wednesday. Charneux, Scott and Katipamula would collect feedback and propose changes to URP process (**Action Item 3**).

## M. Consultants' Reports

AHRI update:

- AHRTI is currently leading a project focused on the risk assessment of residential mono-bloc air-to-water heat pumps (ATWHP) utilizing A3 refrigerants. The project is funded by the California Air Resources Board (CARB) and is designed to generate technical data to support ASHRAE Standard 15.2. AHRTI is partnering with the Oak Ridge National Laboratory (ORNL) for project execution and is actively collaborating with the ASHRAE Next Gen Refrigerants Safety Ad Hoc Group and the ASHRAE 15.2 Committee.

- The third phase of testing is currently underway, focusing strictly on refrigerants with a Global Warming Potential (GWP) of less than 300. Currently, 18 entities are participating in the evaluation of 19 distinct refrigerant candidates.
- Work is ongoing for project AHRTI 9018, which provides technical data to support updates to ASHRAE Standard 15 regarding commercial refrigeration applications.
- AHRTI is continuing its research and testing regarding the heat transfer performance of low-GWP refrigerants.
- A request for co-funding for ASHRAE 1851 WS has been submitted. This request is scheduled for formal review during the upcoming AHRI R&T Committee meeting in September.

#### N. Research Subcommittee Chair's Breakfast

RAC discussed and established the agenda for Monday's breakfast:

- RAC Objectives and Membership
- Budget Update and RAC Activity
- ASHRAE Research Portal Update
- ASHRAE Strategic Plan and Research Advisory Panel
- Awards
- Summary
- Breakouts for RL Reminders for TCs

Slides would be finalized and posted to [Basecamp](#) before the Monday Breakfast.

#### O. Plans for FY 26-27 Society Year

##### a) Thank the chair and members rolling-off RAC

The following members were thanked and recognized for their contributions on RAC:

- o Dennis Landsberg (RAS Chair)
- o Doug Scott (RL5, RPS)
- o Carl Huber (RL8, RPS)
- o Jin Wen, (RAC Chair)

##### b) Introduction of new RAC leadership

New RAC leadership was announced:

- o Roland Charneux – RAC Chair
- o Chris Gray – RAC Vice-Chair
- o Zheng O'Neill – RAS Chair
- o Srinivas Katipamula - RPS Chair

##### c) Introduce new members of RAC

New members were welcomed. RL subcommittee assignments were made as shown:

- o Kathleen Owen– RL Section 1 – RPS
- o Patricia Graef – RL Section 2 - RPS
- o Satheesh Kulankara- RL Section 3- RAS
- o Steven Sill – RL Section 5 – RPS
- o Som Shrestha – RL Section 8 – RPS

##### d) New RAC Member Training

Charneux will poll RLs for training in August (**Action Item 4**).

##### e) Review new assignments & positions for RAC members

- o RAS – **O'Neill**, Kulankara, Sill, Mullen, Kirkwood, Ng
- o RPS – **Katipamula**, Owen, Graef, Ziviani, Shrestha, Murray

- f) Fall Meeting 2026  
RAC will organize a Fall meeting to take place before the TechC Fall meeting.
- g) Review SY 26-27 RAC MBOs  
Charneux will present MBOs to RAC for Fall Meeting.

**P. UNFINISHED OR OUT-OF-SEQUENCE BUSINESS**

- a) Publications Committee  
Wyatt Hahn from Publications Committee addressed RAC noting there were two PTAR proposals they evaluated in Austin and would communicate results shortly. Hahn invited RAC members to reach out with any questions
- b) Indirect Cost Limits  
Following up on the RAC's discussion on indirect costs in ASHRAE research bids, Gray noted that Finance Committee passed a motion for BOD to consider limiting indirect costs percentage for ASHRAE contracts to 15%. This would apply to research agreements. The limit would be a starting point in negotiations versus a hard limit.

**RECESS**

RAC recessed their Part A meeting at 12:01 PM CDT on Saturday, June 27.

**RECONVENE**

RAC reconvened their Part B meeting at 7:00 AM CDT on Wednesday, July 1

**Q. Tentative Research Projects (4 TRPs)**

TRP Review Assignments & Potential Conflicts-of-Interest

- a) 1939-TRP, A tool to evaluate weather inputs for robust building performance analysis and design; Sponsored by TC 4.3, Climatic Information; Co-Sponsored by TC 2.5, Global Climate Change.

It was moved (RAS) that,

**(16)** RAC award 1939-TRP, A tool to evaluate weather inputs for robust building performance analysis and design, is awarded to Colorado School of Mines for a period of 30 months at a total cost to ASHRAE of \$140,087.

**MOTION 16 PASSED RAC: 12-0-0-1 (14) CNV**

- b) 1955-TRP, Healthcare Anteroom Ventilation; Sponsored by TC 9.6, Health Care Facilities; Co-Sponsored by SSPC 170, Ventilation of Health Care Facilities.

It was moved (RAS) that,

**(17)** RAC award 1955-TRP, Healthcare Anteroom Ventilation, to Syracuse University for a period of 24 months at a total cost to ASHRAE of \$192,222.

**MOTION 17 PASSED RAC: 11-0-0-2 (14) CNV**

- c) 1999-TRP, Updating climatic design conditions for the 2029 ASHRAE Handbook – Fundamentals and ASHRAE Standard 169; sponsored by TC 4.2, Climatic Design Information; Co-Sponsored by Load TC 4.1, Calculation Data and Procedures

It was moved (RAS) that,

(18) RAC award 1999-TRP, Updating climatic design conditions for the 2029 ASHRAE Handbook – Fundamentals and ASHRAE Standard 169; to NeuMod Labs LLC for a period of 24 months at a total cost to ASHRAE of \$180,000.

**MOTION 18 PASSED RAC: 12-0-0-1 (14) CNV**

- d) 2000-TRP, Develop cost and performance indexes to evaluate effectiveness of virtual airflow meters in HVAC application, sponsored by TC 7.5, Smart Building Systems.

It was moved (RAS) that,

(19) RAC award 2000-TRP, Develop cost and performance indexes to evaluate effectiveness of virtual airflow meters in HVAC application, to Texas A&M for a period of 24 months at a total cost to ASHRAE of \$192,340.

**MOTION 19 PASSED RAC: 10-0-1-2 (14) CNV**

- e) Carried Over TRPs  
There were no carry over TRPs. A list of projects that could go out for bid in the Fall is included as **Attachment E**. These can go for bid if Work Statement conditions are satisfied with RLs and submitted to ASHRAE staff before September 15th. RLs are asked to reach out and work with TC chairs to prepare conditionally approved WSS before September 15<sup>th</sup> for bid this Fall. (**Action Item 5**).

**R. Research Advisory Panel (RAP)**

RAP continues to meet to develop the ASHRAE Research Strategic Plan (RSP). A draft plan is expected from RAP after the ASHRAE Winter Meeting in Chicago. It is anticipated that the draft plan would focus less on topic areas, but more on initiatives from the ASHRAE Strategic Plan, Vision 2035), outcomes, engagement, impact, and also processes to increase the speed of ASHRAE research.

A subcommittee of RAC is reviewing current RAC and RAP guidance documents to make RAP a standing subcommittee of RAC, and to define RAP activities outside of the RSP development cycle.

Information on RAP is posted to the RAC basecamp.

**S. Research Liaison Section Reports – Vice Chair Charneux Lead**

RLs were asked to update the RL Reminders list after Austin based on feedback and send back to staff after the meeting (**Action Item 6**).

**T. MORTS REPORT**

The MORTS report and appendices is posted to Basecamp.

**U. UNFINISHED BUSINESS – Charneux**

- a) Data Repository

RAC continued their discussion on a data repository from Saturday.

It was moved (Katipamula) and seconded (Ziviani) that

(20) RAC recommends that Technology Council appoint an ad hoc committee to develop an implementation plan for an ASHRAE data repository system to preserve, curate, disseminate, and ultimately leverage the data generated through ASHRAE-funded research and other ASHRAE activities.

**BACKGROUND:** The effort is described in a memo included as **Attachment F**. This group should include representatives from research administration, publications, standards, technology, legal, finance, and technical committees. Its charge would be to define the repository scope, identify pilot datasets, evaluate repository platforms, recommend metadata and licensing policies, and propose a sustainable business model. A limited pilot using selected completed research projects would allow ASHRAE to test the process, estimate costs, evaluate user interest, and identify datasets with the greatest potential value. This memo was distributed to relevant ASHRAE staff who offered feedback. There could be a fiscal impact which may include income from access to ASHRAE data.

**MOTION 20 PASSED RAC: 11-0-1-1 CNV**

b) RAP subcommittee implementation into RAC guidance documents

RAC appointed an ad hoc to continue to develop and implement changes to the ASHRAE and RAC rules to make RAP a subcommittee of RAC. Revision are anticipated by the ASHRAE Winter Meeting in Chicago.

c) Reference Manual updates on AI policy:

It was moved (Mullen) and seconded (Katipamula) that,

(21) The RAC Reference Manual be revised as shown to add guidance on how RAC can use artificial intelligence tools:

A2.1.7 RAS shall comply with the current ASHRAE Policy for Use of Artificial Intelligence. Using AI tools to process, analyze, or read research related documents containing sensitive or proprietary information that is not intended for public dissemination, is prohibited unless specifically authorized.

A3.1.12 RPS shall comply with the current ASHRAE Policy for Use of Artificial Intelligence. Using AI tools to process, analyze, or read research related documents containing sensitive or proprietary information that is not intended for public dissemination, is prohibited unless specifically authorized.

**BACKGROUND:** There is no Artificial Intelligence policy in the ASHRAE ROB to reference but the additions to the RAC Reference Manual explicitly state how artificial intelligence can be used. The language is consistent with the ASHRAE Policy for Use of Artificial Intelligence.

**MOTION 21 PASSED RAC: 10-0-1-2 (14) CNV**

Staff was asked to explore if Society Rules Committee (SRC) had input on how the AI policy should be addressed by ASHRAE or by Committees (**Action Item 7**). There are other AI issues to be worked out such as local or closed AI tools.

- d) IRG selection  
Three full proposals were received for evaluation.

It was moved (Gray) and seconded (Katipamula) that,

(22) Cary Simonson of the University of Saskatchewan be the recipient of the 2026-2027 Innovative Research Grant Award.

**MOTION 22 PASSED RAC: 9-2-1-2 (14) CV**

## **V. NEW BUSINESS**

- a) Develop a framework to support RP:  
1) strategies to solicit research impact stories from TC (which standards, which data, etc.)  
2) strategies to identify proper awardees to share their stories  
3) understand research expenditures
- b) SFPE co-funding for a research proposal entitled, "Development of a BIM-Based Case File to Identify Fire Protection Data Exchange Needs Across the Building Lifecycle?"

ASHRAE has been asked to co-fund this project. TCs 1.5 and 7.1 were asked for their comments on the project and whether or not ASHRAE should contribute funding. RAC can formally consider at a future meeting.

## **W. REVIEW OF NEW ACTION ITEMS**

A full list of actions from the Annual Meeting is included in page v of these minutes.

## **ADJOURN**

The meeting of the Research Administration Committee was adjourned at approximately 11:00 AM CDT on Wednesday, July 1, 2026.

MBO Submissions to Planning Committee

Last submission date: 6/27/2026

Generation date: 7/3/2025

Committee: Research Administration CommitteeChair: Wen JinVice-chair: Charneux Roland

| MBO #                          | Description                                                                                                         | Metric                                                                                                                                                                               | Completion % /Date | Financial Assist Req'd? | Staff Assist Req'd? | MBO Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (how do we determine success?) |                                                                                                                     |                                                                                                                                                                                      |                    |                         |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 1                              | Update RAC MOP, Reference Manual to specify rules for formation/operation of RAP to develop research strategic plan | Updates to governing documents available on the website                                                                                                                              | 50% 6-30-2026      |                         | Yes                 | Request was for standing RAP subcommittee of RAC. Draft revisions to RAC guidance documents have been made but more RAC and RAP discussion is needed to define RAP's role and responsibilities outside of RSP development.<br><b>UPDATE:</b> A subteam of RAC was appointed to review draft changes to guidance documents. RAC continues to work with RAP to determine roles and responsibilities to incorporate into guidance documents.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2                              | Establish a standing RTAR/WS writing mentorship program.                                                            | Potential actions: standing RTAR/WS help desk or office hour during ASHRAE meetings; Panel discussions to share the best practices; list of "all-star" authors for potential review. | 30% 6-30-2026      |                         | Yes                 | One key issue contributing to delays in the RTAR/WS approval process is the lack of clarity and effectiveness in authors' writing. RAC often struggles to understand the significance, objectives, and overall intent of the proposed project. To address this, establishing an author mentorship program would help authors, especially first-time or inexperienced authors to improve the quality and clarity of proposals, ensuring they communicate critical information more effectively and streamline the review process.<br><b>UPDATE:</b> Research Subcommittee chairs were surveyed to identify their interest and participation in a mentoring program. RAC is compiling a list of potential members and recruiting members at Research Breakfast. RAC also considering 'office hours' and panel for Winter Meeting to address questions.                                                                                                                                          |
| 3                              | Establish a routine to review budget guidelines                                                                     | Updates to governing documents available on the website                                                                                                                              | 50% 6-30-2026      |                         | Yes                 | We may need to raise the current budget cap from 350k to 375k to reflect the inflation. RAC can institute a policy to review this every year or couple of years to consider increasing costs to perform ASHRAE research<br><b>UPDATE:</b> RAC passed motion in LV to increase limit to \$450k that did not pass. RAC will reconsider if another motion is appropriate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4                              | Establish a central location for all training materials.                                                            | Updates to RAC pages on ASHRAE webpage                                                                                                                                               | 100% 6-30-2026     |                         | Yes                 | Update training materials and post current versions to ASHRAE webpage.<br><b>UPDATE:</b> training materials available on website and Research Subcommittee Chairs Basecamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 5                              | Improving RAC feedback on RTARs/WSs                                                                                 | Quarterly updates to TCs on RTARs, WSs. Post training and resources to ASHRAE website and Basecamp                                                                                   | 100% 6-30-2026     |                         |                     | Another factor that may contribute to delays in the RTAR/WS approval process is a limited understanding of the context and key points raised during RAC's discussions. While review comments and RL communications provide some insight, they may not capture the full scope of the debate. Providing a clear and concise summary of the RAC panel discussion could help authors better understand the concerns and expectations, thereby improving their responses and reducing approval delays. There are also potential actions that we could take to help TCs and authors to take actions long-before the RTAR/WS deadlines.<br><b>UPDATE:</b> RAS/RPS chairs now being asked to summarize comments after discussion to develop comprehensive list of comments to be addressed for approval. Training continues to emphasize the relationship and role of RAC and RLs to TCs developing ASHRAE projects.                                                                                  |
| 6                              | Identify the best mechanism to provide a data repository for RPs                                                    | Create the framework design or identify existing infrastructure.                                                                                                                     | 100% 6-30-2026     |                         | Yes                 | There is a need for standardized requirements or guidelines for documenting/formatting of data resulting from ASHRAE research. RAC can explore establishing new contract language to get data in a more generally usable format. RAC to explore how data from research projects can be submitted in a universal or accessible format and document in Research Manual<br>RAC formed a subcommittee to review current requirements, language from other organizations that address these issues, and draft language that would help keep data from ASHRAE research projects available and useable. Inquiry made with staff for data repository. A subcommittee is reviewing draft language from other organizations and language for ASHRAE Research Agreement.<br><b>UPDATE:</b> RAC developed a memo summarizing the effort. Feedback was solicited and received from various ASHRAE staff. RAC considering a motion to appoint a task group to formalize a project scope, timeline and cost. |

|   |                                                                                                                       |                                           |               |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7 | Establish new requirements for lay description of research projects and, best research findings from Research chairs. | Streamline reporting requirements for RPs | 80% 6-30-2026 |  |  | <p>RAC sought feedback at Research Breakfast and from RP on how ASHRAE can get information about completed research out to members and public in layman's terms.</p> <p>RAC members would review and draft changes to Research Agreement deliverables as appropriate to implement this requirement.</p> <p><b>UPDATE:</b> RAC reached out to PIs of recently completed projects and developed 2 examples of completed slides. RAC has requested feedback from RP and reached out to ASHRAE editor for possible inclusion in ASHRAE Journal or Insights. When RP approves format with examples, RAC can add this slide as a research project deliverable.</p> |
|---|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



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| ASHRAE Policies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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| <h3>Code of Ethics</h3> <p>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.</p>                                                                                                                                                                                                                                                                                                                                                                         | <h3>Harassment and Discrimination</h3> <p>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.</p> | <h3>Commercialism</h3> <p>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.</p> |
| <h3>Value Statement</h3> <p>In ASHRAE meetings, 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 shall avoid all real or perceived conflicts of interest. Our culture is one of inclusiveness, acknowledging the inherent value and dignity of each individual. We celebrate diverse and inclusive communities, understanding that doing so fuels better, more creative and more thoughtful ideas, solutions and strategies for the Society and the communities our Society serves. We respect and welcome all.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                  |

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**Julia Timberman, P.E.**  
Columbus, Ohio

**Region VI**

**Maggie Moninski, P.E., LEED AP,  
BD+C**  
Chicago, Illinois

**Region VII**

**Carrie Keltly, P.E., LEED AP**  
Lexington, Kentucky

**Region VIII**

**Keith Reihl, P.E., HBDP, CEM**  
Houston, Texas

**Region IX**

**Daniel Russell, P.E., HFDP**  
Nampa, Idaho

**Region X**

**Colin Laisure-Pool, P.E.**  
Phoenix, Arizona

**Region XI**

**Russell Lavitt, P.Eng., Fellow  
ASHRAE, LEED AP, BD+C**  
Winnipeg, Manitoba, Canada

**Region XII**

**Jason Alphonso, P.E., OPMP**  
Winter Park, Florida

**Region XIII**

**Ching Loon Ong, P.E., CMVP, Hon  
Fellow AFEO**  
Subang, Java, Malaysia

**Region XIV**

**Eduardo Maldonado**  
Porto, Portugal

**Region XV**

**Pankaj Dharkar, Fellow ASHRAE**  
Ahmedabad, India

**Region-at-Large**

**Bassel Anbari, P.E.**  
Abu Dhabi, United Arab Emirates

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# ASHRAE Directors-at-Large

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**Filza Walters, Fellow  
ASHRAE, FESD**  
Westland, Michigan



**Steve Kujak**  
Brownsville, Minnesota



**Patrick Marks, P.E.**  
York, Pennsylvania



**Krisnan Gowri, Ph.D.,  
BEMP, Fellow Life  
Member ASHRAE**  
Bothell, Washington



**Carrie Brown, Ph.D.**  
Oakland, California



**Mike Pouchak, P.E., Fellow  
ASHRAE**  
St. Anthony, Minnesota



**David Yashar, Ph.D.,  
Fellow ASHRAE**  
Gaithersburg, Maryland



**Daniel Nall**  
Princeton, New Jersey



**Martin Dierycx**  
Oostende, Belgium

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# ASHRAE Staff Directors

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**Executive Office  
Jeff Littleton**



**Government Affairs  
Alice Yates**



**Member Services  
Lizzy Seymour**



**Administrative  
Services  
Craig Wright**



**Technology  
Stephanie  
Reiniche**



**Marketing  
Vanita Gupta**



**Development  
Kirstin Pilot**



**Publication &  
Education  
Mark Owen**

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# Marketing Central

ABOUT | 
 TECHNICAL RESOURCES | 
 PROFESSIONAL DEVELOPMENT | 
 CONFERENCES | 
 COMMUNITIES | 
 MEMBERSHIP

## MARKETING CENTRAL



### ASHRAE Acronym Guide

Download this quick guide for an easy reference of acronyms commonly used in ASHRAE. Easily see and search through over 400 terms!

DOWNLOAD



### Presentations

**Find the most current:**

- ▶ ASHRAE Leadership
- ▶ *This Is ASHRAE*
- ▶ ASHRAE Handbook
- ▶ Research Promotion
  - ▶ Standards
- ▶ Technical Committees
- ▶ Other presentations

LEARN MORE



### ASHRAE President

Bill McQuade, P.E., CDP, Fellow ASHRAE, LEED AP is ASHRAE's President for the 2025-26 term.

LEARN MORE



### ASHRAE Branding Guide

Reference this quick and informative resource for all of your ASHRAE branding needs and questions including logos, color palettes, chapter information, and typography.

LEARN MORE

**Visit Marketing Central** for marketing materials and resources.

- Brochures
- Press Releases
- Forms
- Chapter Logos
- Newsletters

...and more!

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# ASHRAE Society Calendar

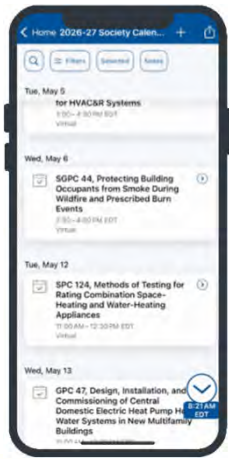
ABOUT | 
 TECHNICAL RESOURCES | 
 PROFESSIONAL DEVELOPMENT | 
 CONFERENCES | 
 COMMUNITIES | 
 MEMBERSHIP

**All ASHRAE events for the Society year in one place for a seamless experience online and on ASHRAE 365.**

Contains

- ✓ In-Person and Virtual Meetings & Events
- ✓ ASHRAE BOD, Council, and Committee Meetings
- ✓ Functional Group Meetings
- ✓ Project Committee Meetings
- ✓ Centralized Trainings
- ✓ ASHRAE Training Opportunities
- ✓ Endorsed Events & Tradeshows
- ✓ ASHRAE Winter, Annual, Topical and CRCs

**NOTE:** ASHRAE Conferences will continue to have detailed events in ASHRAE 365. Chapter and Region events will not be included.



Look for it July 2026!

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

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## Vision 2035 Now Available



[ABOUT](#) | [TECHNICAL RESOURCES](#) | [PROFESSIONAL DEVELOPMENT](#) | [CONFERENCES](#) | [COMMUNITIES](#) | [MEMBERSHIP](#)

### Check out the new Vision 2035!

[ashrae.org/vision2035](https://ashrae.org/vision2035)

Vision 2035 and previous long-range vision plan editions serve as time-bound milestones advancing ASHRAE's overall [Mission and Vision](#). It provides guidance for continuity across [Strategic Plans](#) through 2035.

#### Focus Areas

- ✓ Personalized and Resilient Environments
- ✓ Regenerative Development
- ✓ Human Centered and Equitable Design
- ✓ Intelligent Building Lifecycle
- ✓ Low Carbon and Circular Built Environments

**Update:** ASHRAE Strategic Plan is extended through 2030

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



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## President's Luncheon



[ABOUT](#) | [TECHNICAL RESOURCES](#) | [PROFESSIONAL DEVELOPMENT](#) | [CONFERENCES](#) | [COMMUNITIES](#) | [MEMBERSHIP](#)



**Monday, June 29 | 12:15 PM**

*Ticket Required*

Welcome new board members and thank outgoing members at the President's Luncheon.

Hear incoming Society President Sarah Maston introduce the Society Theme:

**Changing the Game:  
Retrofitting for Resilience**

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# Government Affairs

[ABOUT](#) | [TECHNICAL RESOURCES](#) | [PROFESSIONAL DEVELOPMENT](#) | [CONFERENCES](#) | [COMMUNITIES](#) | [MEMBERSHIP](#)



## Hot Topics in Government Affairs



**AI / Data Centers**



**Refrigerant Transition**



**EPCA Modernization** (DOE Appliance and Equipment Standards)



**Energy Codes, Resiliency and Affordability**



**IAQ/IEQ/Thermal Comfort**



**Workforce Development** (trades and STEM)

Sign up for the Government Affairs Update  
online or email [GovAffairs@ashrae.org](mailto:GovAffairs@ashrae.org)

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# RP and ASHRAE Foundation: Supporting ASHRAE's Mission

[ABOUT](#) | [TECHNICAL RESOURCES](#) | [PROFESSIONAL DEVELOPMENT](#) | [CONFERENCES](#) | [COMMUNITIES](#) | [MEMBERSHIP](#)



## Projections for Society Year ending June 30, 2026



**\$2.8M** Raised through Research Promotion Campaign



**\$830,000** Raised for Endowments with the ASHRAE Foundation



**\$275,000** Awarded through 79 Scholarships



**\$2M** Raised for ASHRAE Research



**\$35,000** Raised by College of Fellows and Life Members Club



**\$1.2M** Given by ASHRAE Regions, Chapters and Sections

More than 3,500 contributions from Members, Organizations and other Associations

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## Center for Excellence in Building Decarbonization (CEBD)

ABOUT | [TECHNICAL RESOURCES](#) | PROFESSIONAL DEVELOPMENT | CONFERENCES | COMMUNITIES | MEMBERSHIP



*CEBD Strategic Planning Retreat*



Kenya



Lebanon



India

*Building Code Workshops*

### Strategic Planning Retreat *(Held April 24-25, 2026 in Washington, DC)*

- ✓ Strategized Alignment with CE IEQ
- ✓ Developed Future Strategic Initiatives & Existing Enhancements

#### SY 2026-2027 Strategic Initiatives

- ✓ Asserting Leadership in Whole Life Carbon
- ✓ Charting the Path to 2050
- ✓ Accelerating Market Adoption & Insight

#### Enhancements to Existing Priorities

- ✓ Additional Building Code Assessment Tool (BCAT) Workshops
- ✓ CEBD Chapter Engagement & Ambassador Program
- ✓ Strengthen Committee-to-Committee Collaboration

### Additional Activities

- ✓ Tech Council: Five (5) Research Projects Underway
- ✓ Members Council: Distinguished Lecturer Presentation on Decarbonization Retrofits
- ✓ Publication & Education Council: Two (2) Design Guides and Two (2) eLearning Courses
- ✓ Building Code Workshop held at Developing Economies Conference

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## Center for Excellence in Indoor Environmental Quality (CE IEQ)

ABOUT | [TECHNICAL RESOURCES](#) | PROFESSIONAL DEVELOPMENT | CONFERENCES | COMMUNITIES | MEMBERSHIP



CE IEQ April 23-24, Washington, DC

### Available July 1, 2026 at

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

### Strategic Planning Retreat

- ✓ Develop IEQ Roadmap
- ✓ Harmonize Current & Expedite Future IEQ Guidance
- ✓ Strategize Alignment with CEBD, EHC, & GAC
- ✓ Create External Engagement & Liaison Strategy
- ✓ Develop Future Strategic Priorities

### SY 2026-2027 Strategic Priorities

- ✓ Announce and Activate CE IEQ
- ✓ Develop IEQ Operator Checklist
- ✓ Develop Standards-specific Guidance
- ✓ Continue Support for 235p
- ✓ Develop a Holistic IEQ Briefing Document
- ✓ Develop Metrics for IEQ & Energy Nexus
- ✓ Review & Strengthen Organizational Relationships

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# NEW! AI Data Center Framework

ABOUT | [TECHNICAL RESOURCES](#) | PROFESSIONAL DEVELOPMENT | CONFERENCES | COMMUNITIES | MEMBERSHIP

**A one-stop shop for AI Data Center planning and development.**  
Available in 'Technical Resources' on [ashrae.org](http://ashrae.org).





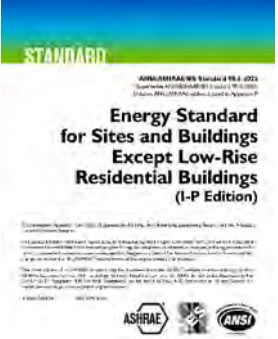
|                                                                                                                                |                                                                                                                              |                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <br>Planning and Siting                       | <br>Integrated Design Principles          | <br>Energy and Thermal Efficiency            |
| <br>Grid Interactivity and Demand Flexibility | <br>Resilient Design                      | <br>Commissioning and Performance Validation |
| <br>Operations and Maintenance                | <br>Retrofit and Modernization Strategies | <br>Tools, Standards, and Resources          |

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# Standards & Guidelines

ABOUT | [TECHNICAL RESOURCES](#) | PROFESSIONAL DEVELOPMENT | CONFERENCES | COMMUNITIES | MEMBERSHIP

## New Standards

|                                                                                                                                                                                               |                                                                                                                                         |                                                                                                                                                                                |                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>Energy Standard for Sites and Buildings Except Low-Rise Residential Buildings (I-P Edition)</b></p> |  <p><b>Ventilation of Health Care Facilities</b></p> |  <p><b>A Control Description Language for Building Environmental Control Sequences</b></p> |  <p><b>Climatic Data for Building Design Standards</b></p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|

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ASHRAE Bookstore

ABOUT | [TECHNICAL RESOURCES](#) | PROFESSIONAL DEVELOPMENT | CONFERENCES | COMMUNITIES | MEMBERSHIP

Coming Soon!

ASHRAE POCKET GUIDE  
for Air Conditioning, Heating,  
Ventilation, Refrigeration  
**SI**  
11th Edition

ASHRAE POCKET GUIDE  
for Air Conditioning, Heating,  
Ventilation, Refrigeration  
**I-P**  
11th Edition

Principles  
of Heating,  
Ventilating,  
and  
Air Conditioning  
Tenth Edition  
  
Based on the 2025 ASHRAE Handbook—Fundamentals  
  
Károly L. Jassó, PE  
Julia A. Kean, PhD, PE  
Andrew M. Struel, PE  
Megan Tsch, PE

2026  
ASHRAE HANDBOOK  
  
REFRIGERATION  
I-P Edition  
Supported by ASHRAE Research

2026  
ASHRAE HANDBOOK  
  
REFRIGERATION  
SI Edition  
Supported by ASHRAE Research

Pre-order PHVAC and 2026 ASHRAE Handbook -- Refrigeration

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Professional Development

ABOUT | TECHNICAL RESOURCES | [PROFESSIONAL DEVELOPMENT](#) | CONFERENCES | COMMUNITIES | MEMBERSHIP

eLearning

Updated Course

COURSE PACKAGE

ASHRAE

UPDATED

eLearning



HVAC CONTROL  
SYSTEMS I-P

ASHRAE Learning  
Institute

Free Publication

Live Virtual Training  
Training that fits your schedule  
and your goals.



Register for ALI's Live Virtual  
Training and receive a FREE  
ASHRAE Standard or  
Guideline!

Certification

Record Application Total  
On Track for SY 2026















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## Professional Development



ABOUT | TECHNICAL RESOURCES | [PROFESSIONAL DEVELOPMENT](#) | CONFERENCES | COMMUNITIES | MEMBERSHIP

Thanks to the contributions from **Richard and Mary Farr, the Setty Family Foundation, and the Jim and Nancy Fields Professional Engineering and Technology Development Fund**, the Professional Development Scholarships will provide eligible ASHRAE Members with **35%-50% off the listed member registration fee.**

### Criteria

- ✓ Within first five years of membership
- ✓ Apply 3 weeks before your course
- ✓ Must include a chapter officer's support letter

**Where to apply?** Check the page of the course you're interested in for an application.



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## 2026 - 27 Topical Conferences



ABOUT | TECHNICAL RESOURCES | PROFESSIONAL DEVELOPMENT | [CONFERENCES](#) | COMMUNITIES | MEMBERSHIP

- 
**Seattle, WA, September 23-25, 2026**  
 2026 ASHRAE Building  
 Decarbonization Conference
- 
**Beirut, Lebanon, October 8-9, 2026**  
 Seventh International Conference on  
 Efficient Building Design
- 
**Kuwait University City, Kuwait, November 16-18, 2026**  
 Ninth International Conference on Energy  
 Research and Development (ICERD – 9)
- 
**Dallas, TX, March 3-5, 2027**  
 2027 ASHRAE Data Center and AI  
 Integration Conference
- 
**Baltimore, MD, April 12-13, 2027**  
 Women in ASHRAE Leadership Symposium



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## Future Conferences + 2027 ASHRAE Winter Conference

[ABOUT](#) | [TECHNICAL RESOURCES](#) | [PROFESSIONAL DEVELOPMENT](#) | [CONFERENCES](#) | [COMMUNITIES](#) | [MEMBERSHIP](#)



### Changes to Future ASHRAE Annual Conferences

**The Future of ASHRAE Conferences Ad Hoc** charge is to recommend a new overall Society conference strategy which specifically focuses on **changes to the typical Annual Conference**.

A recommendation will be made at the 2026 Annual Conference in Austin. Approved changes will be reflected in **the coming years**.

Any approved changes will **not** go into effect until 2030. Annual Conference will remain the same through 2029.



**Join us in Chicago**  
**Jan 23 - 27**

**Registration Opens in**  
**September**

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## Nominate for Committees and Awards

[ABOUT](#) | [TECHNICAL RESOURCES](#) | [PROFESSIONAL DEVELOPMENT](#) | [CONFERENCES](#) | [COMMUNITIES](#) | [MEMBERSHIP](#)



### Find Committees and Nominate Yourself or Others

SEP 2026

**September 18:** Nominations for elected positions are due. (Publications & Education Council, Tech Council, RAC, TAC, Standards, Handbook, Nominating)

FEB 2027

**February:** Nominations for appointed committees are due.

JUN 2026

**June:** Speak with your committee ExO/CO if your current appointment/elected position ends to be nominated for another.

### HONORS & AWARDS

The following awards have a [DEC 1 deadline](#):

- Andrew T. Boggs Service Award
- Distinguished 50-Year and 75-Year Member Award
- Distinguished Service Award (DSA)
- Louise & Bill Holladay Distinguished Fellow Award
- Exceptional Service Award (ESA)
- Eunice Foote Decarbonization Award

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## Simplified Model

# VOTE TODAY

Proposed Bylaws amendment on Spring Ballot,  
emailed to you in late April from [noreply@directvote.net](mailto:noreply@directvote.net).

| Member Grade                                                                                                                                                                                                      |                          |                          |                          |                          | Student Member Grade                                                     |                                                                                                                   | Other                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Member                                                                                                                                                                                                            |                          |                          |                          |                          | Young Professional                                                       | Tenured Professional                                                                                              | Life Service Member                                                                    |
|                                                                                                                                                                                                                   |                          |                          |                          |                          | Presidential Member                                                      | Student Member                                                                                                    | Student Branch Advisor                                                                 |
|                                                                                                                                                                                                                   |                          |                          |                          |                          | Honorary Member                                                          |                                                                                                                   |                                                                                        |
| WB Tier 1<br>Standard Dues                                                                                                                                                                                        | WB Tier 2<br>80% of dues | WB Tier 3<br>60% of dues | WB Tier 4<br>40% of dues | 50%<br>(+ tier discount) | FREE                                                                     | 90%<br>(+ tier discount)                                                                                          | 80%<br>(+ tier discount)                                                               |
| Anyone involved in the building sciences industry                                                                                                                                                                 |                          |                          |                          |                          | Anyone ≤ 35 yo who joins pays this fee first for 2 years                 | Anyone ≥ 65 yo with 25 years cumulative membership                                                                | 30 yrs cumulative member + ≥ 65 + DSA or 15 qualifying service points                  |
|                                                                                                                                                                                                                   |                          |                          |                          |                          | Served as Society President                                              | Must be currently enrolled in university, college, junior college or technical institute                          | Faculty member who is ASHRAE member & must submit application and submit annual report |
| Handbook Online + *Journal, HPB, Insights + Tech Portal + Member Pricing + Voting Privileges and Serve as C,R,S level roles<br>Choice of 1:<br>eLearning Course, Certification Study Guide, Standard or Guideline |                          |                          |                          |                          | Handbook Online + *Journal, HPB, Insights + Tech Portal + Member Pricing | Same as Member + waived dues, extreme discounts to W&A Conferences, Invitations to VIP events (Presidential Only) | Same as Young and Tenured Professionals                                                |
| Additional New Member Benefits:<br>Receive a Comp Winter or Annual Conference to attend in first 3 years + Handbook Online access for 1 year                                                                      |                          |                          |                          |                          | Full Member Benefits if requested                                        |                                                                                                                   |                                                                                        |

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## Proposed Dues Rates

### VOTE TODAY

Proposed Bylaws amendment on Spring Ballot,  
emailed to you in late April from [noreply@directvote.net](mailto:noreply@directvote.net).

Career and Economic discounts off main dues rate as set by the Board of Directors.

Economic discount based on country of residence as defined by the World Bank.

High Income = Tier 1, Upper Middle Income = Tier 2, Lower Middle Income = Tier 3, Low Income = Tier 4

| ASHRAE Membership Dues Rate Table |     | Career Based Discount |                          |                        |         |                         |
|-----------------------------------|-----|-----------------------|--------------------------|------------------------|---------|-------------------------|
|                                   |     | All Others            | Young Pro OR Tenured Pro | Student Branch Advisor | Student | Life Service & Honorary |
| Economic Discount                 |     | 0%                    | 50%                      | 80%                    | 90%     | 100%                    |
| World Bank Tier 1                 | 0%  | \$290                 | \$145                    | \$60                   | \$30    | FREE                    |
| World Bank Tier 2                 | 20% | \$230                 | \$115                    | \$45                   | \$25    | FREE                    |
| World Bank Tier 3                 | 40% | \$175                 | \$90                     | \$35                   | \$20    | FREE                    |
| World Bank Tier 4                 | 60% | \$115                 | \$60                     | \$25                   | \$10    | FREE                    |

The dues rates and percentages are for **illustrative purposes only**, based on 2026-2027 dues rates. The Finance Committee is responsible for reviewing, recommending changes and interpreting fees, dues, and privileges. (ROB 2.408.004)



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## Timeline

Learn More at [ashrae.org/2026Bylaws](https://ashrae.org/2026Bylaws)



**PLEASE VOTE! Election Closes**  
**Saturday, 3:00 PM CT June 27!**



Please vote on the Proposed Bylaws amendment on Spring Ballot. Questions? Email [ballot@ashrae.org](mailto:ballot@ashrae.org).

**By June 30, 2027:** If Bylaws amendment are approved, all changes made to membership database, website, promotional materials, ROB, Committee/Council MOPs and training materials.

**July 1, 2027:** New model implemented.

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## Media Inquiries



**Asked to make a statement  
on behalf of ASHRAE?**

Please send all media  
inquiries to  
[publicrelations@ashrae.org](mailto:publicrelations@ashrae.org)  
before responding to  
members of the press.

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Thank you!  
Questions or Comments?

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

# ASHRAE RULES OF THE BOARD

## 2.303 TECHNOLOGY COUNCIL

### 2.303.002.2 RESEARCH ADMINISTRATION PROCEDURES (02-01-17-61)

A. This council shall review, at least annually, the Research Administration Committee's procedures for handling research proposals (currently located in Research Manual) for the purpose of ensuring that adequate confidentiality of all proposals is maintained.

B. This council shall be responsible for maintaining the election and appointment procedures for the Research Advisory Panel.

## 2.421 RESEARCH ADMINISTRATION COMMITTEE

### 2.421.01 SCOPE AND PURPOSE

This committee shall conduct and coordinate basic research and technical studies in the fields of heating, refrigeration, air conditioning and ventilation, subject to the proviso that these activities shall be devoted to the public welfare and general benefit, and shall not be designed to promote any individual, private or commercial interests. (SBL 7.7)

### 2.421.02 MEMBERSHIP

#### 2.421.002.1 Composition

(06-01-26-34/08-10-24-20)

The members of this committee are as follows

A. Fourteen (14) voting members, including a chair and a vice chair

Non-voting members include a Board ex-officio member and coordinating officer.

#### 2.421.002.2 Qualifications

A. All members of this committee shall hold a Full Member grade or higher in the Society.

B. It is desirable that at least one member reside outside the U.S. and Canada. (06-01-26-33)

C. See *Qualifications for new RAC Members* in 2.421.003. (89-02-02-62A)

#### 2.421.002.3 Term of Service

(94-06-26-04/00-02-10-59/07-06-27-29)

The term of service for voting members is intended to be four (4) years, subject to ROB 3.300 *Election and Appointment Procedures*.

### 2.421.03 Recommended Qualifications for New RAC Members

#### 2.421.03.1

Appointments to the Research Administration Committee (RAC) reflect very highly on the appointees' demonstrated leadership qualifications and prior contributions to ASHRAE. These individuals are charged only with conduct of the essential research and student-aid programs. New RAC members initially serve in two capacities. First, they are assigned as Research Liaisons to one or more of ten technical sections, with responsibilities for coordinating the research activities of the committees within their section. Second, they are also appointed to one of two RAC subcommittees, each assigned specific functions with regard to the research program, long-range planning functions. To perform these duties, candidates must be both willing and able to volunteer substantial effort and to provide or arrange for requisite support. (06-01-25/26-33)Fte

The following criteria are suggested to screen candidates:

#### A. Experience

1. Candidates shall be current members of the Society, in Full Member grade or higher, and have been active members for a minimum of five years. (ROB Vol. 2)
2. Candidates normally will have served on more than one Technical Committee (TC), Task Group (TG), Multidisciplinary Task Group (MTG), or Technical Resource Group (TRG), for an aggregate of ten or more

committee years.

3. All members of this committee should have significant experience with ASHRAE research activities in one or more technical committee (TC), task group (TG), or standing standards project committee (SSPC). (07-06-27-29)
  4. Candidates should have regularly attended Winter and Annual Society meetings for a minimum period of five years. An occasional absence does not disqualify a candidate who had regularly attended these meetings for a correspondingly longer period, provided that the absences do not suggest a pattern that would interfere with an RAC appointment.
  5. Whenever possible, candidates having also previously served on other Standing Committees should be considered.
- B. Conflicts - Individuals expected to serve on other Standing Committees or currently serving their first year (or subsequent years if reappointment is likely) as chair of a TC/TG/MTG/TRG, or as vice chair of a TC/TG/MTG/TRG should not be further considered for RAC appointments for the year under consideration.
- C. Logistics
1. RAC members are elected for four-year terms, implying a long-term commitment of effort and support. Candidates nearing planned retirement or having already retired from their business and professional roles must be willing and able to continue their RAC functions following the transition. While retirement may afford increased time for committee functions, most RAC members have found that appointment also entails significant non-reimbursable costs to cover meeting attendance and logistics. ASHRAE does reimburse airline or comparable travel costs for prescribed RAC meetings, but does not defray the other costs.
  2. Candidates should be prepared to attend the Winter and Annual Meetings, RAC and subcommittee meetings on the preceding Fridays and Saturdays, and two additional Saturday/Sunday meetings in the fall and spring. Candidates residing overseas or in the western portions of Canada and the United States should recognize that travel is likely to require an additional day for each meeting, resulting in 16-20 days of travel, including 12-20 nights of un-reimbursed lodging, per year. Many employers defray these expenses, but not all do.
  3. RAC business typically requires an additional one to two days of work per month and may sporadically demand higher levels of involvement. Further, practical circumstances dictate that members provide or arrange for clerical (secretarial, reproduction, and mailing) support as well as communications by telephone.
- D. Qualifications
1. Proposed RAC members should be selected from individuals who satisfy the above criteria based on four prioritized objectives:
    - a. Demonstrated leadership abilities in Society functions;
    - b. Technical competence with attention to representing diverse disciplines on RAC;
    - c. Balanced representation of employment categories (e.g., design, manufacturing, research and academics), and
    - d. Balanced geographic representation.
  2. The staff liaison to RAC, in consultation with the current chair of RAC, will identify projected needs for new RAC members to achieve the appointments to RAC Executive Committee functions.
  3. Additional consideration should be given to individuals who have been active in technical areas that are currently priority issues to the Society and its membership. Examples include those currently involved in the chlorofluorocarbon refrigerant, environmental health and indoor air quality issues.

## 2.421.04 OPERATION

### 2.421.04.1 General Requirements

### 2.421.04.2 Research Plan (08-06-25-15A)

- A. This committee shall develop and maintain a plan to manage the implementation of the Society's research efforts for BOD approval upon recommendation of the Technology Council
- B. This committee may use the advice and counsel of the Research Advisory Panel to develop and maintain the Society's strategic plan for research and/or to conduct research, especially in the areas of advanced concepts and emerging technologies. (99-01-28-74/01-02-01-48/04-07-01-42)
- C. This committee shall prepare a research implementation plan, based on input from the Research Advisory Panel, TC/TG/MTG/TRGs, standing committees, SPCs and councils, assigning research priorities as a basis for subsequent approval of work statements, evaluation of research projects and recommendation of contract awards. (99-01-28-65/06-01-26-31/11-02-02-12)

- D. This committee shall cooperate with the Technical Committees, Task Groups, Multi-disciplinary Task Groups with research authority, Environmental Health Committee, The Refrigeration Technology Committee for Comfort, Process, and Cold Chain shall encourage application the broad advancement of refrigeration technology and its application., Residential Building Committee, and Standing Standards Project Committees to plan, develop, contract, monitor and disseminate the results of research and technical projects in accordance with RAC guides. The Technical Committees, Task Groups, Multidisciplinary Task Groups with research authority, Environmental Health Committee, The Refrigeration Technology Committee for Comfort, Process, and Cold Chain shall encourage application the broad advancement of refrigeration technology and its application., Residential Building Committee, and Standing Standards Project Committees shall be responsible for the technical content of the projects. This committee shall review and monitor the work of the Technical Committees, Task Groups, Multidisciplinary Task Groups with research authority, Environmental Health Committee, The Refrigeration Technology Committee for Comfort, Process, and Cold Chain shall encourage application the broad advancement of refrigeration technology and its application., Residential Building Committee, and Standing Standards Project Committees to ensure that said projects are consistent with the Society's research objectives and that ASHRAE procedures have been followed. (99-01-28-65/07-06-27-30/11-06-29-13)
- E. This committee shall approve, or recommend to Technology Council for approval, the funding of research after ensuring the project is for the public welfare and general benefit, shall not promote any individual, private or commercial interest, is within the approved research budget, and that the bidding, review, contractor selection and approval process has been conducted within existing policy of the Society as defined by Society documents. (99-01-28-65/07-06-27-30)
- F. Non-member consultants to this committee may be reimbursed for their entire expense while traveling on behalf of the RAC. Said expenses are to be approved by the Chair of this committee and are to be charged against budgeted committee travel expenses, or specific research projects. (62-06-24-13)

#### 2.421.004.3 Research Advisory Panel

(906-01-26-32/08-06-25-15A 0)

The purpose of the Research Advisory Panel (RAP) is to develop the research strategic plan for the Society. RAP is appointed by Technology Council and reports to RAC in the organizational structure of ASHRAE. The election and appointment procedures for the Research Advisory Panel are maintained in the Technology Council MOP.

#### 2.421.04.4 Research Budget

The total expenditure for the proposed projects shall not exceed the approved budget for the Society fiscal year. The Board may authorize the expenditure of funds in excess of the research budget.

(65-07-04-14/88-05-21-51/91-01-24-71C/99-01-28-65).

The annual expenses of the Research Fund shall not exceed the budgeted annual income in the Research Fund.

(01-01-31-14/01-06-24-8A2/07-06-27-31) (ROB 510-150-001).

#### 2.421.04.5 Model Research Agreements

- A. Research contracted by ASHRAE will be conducted under the general framework of the Model Research Agreement. (RAC MOP Appendix A) (12-01-25-24[51])
- B. Research contracts that include changes in the Model Research Agreement affecting the type of agreement, cost, publication rights, intellectual property and legal exposure to the Society shall be recommended by the Manager of Research, Director of Technology, Executive Vice President, and, after consultation with legal counsel, approved by the Executive Committee. Other changes may be made at the discretion of the Manager of Research.

(64-10-09-09/88-05-21-51/99-01-28-65/02-06-27-31/07-06-27-32)

- C. Collaborative research led by others and co-funded by ASHRAE will be conducted under the general framework of the Model Research Co-Funding Memorandum of Understanding (MOU).

(RAC MOP Appendix B) (14-07-02-26)

#### **2.421.04.6 Technology Transfer**

- A. This committee shall develop and maintain policies to govern the transfer of technology resulting from Society-sponsored research for BOD approval upon recommendation of the Technology Council.

- B. The Society shall publish the results of research which it sponsors. Every effort must be made to obtain a paper which can be published, even if it is not presented in a program. In such event, written comments from the sponsoring TC/TG and/or others shall be published with the report(s) to support or question its conclusions.

- C. It is the policy of the Society that information obtained from the Society research program is to be considered preliminary and subject to revision until it is published by the Society.

- D. This committee shall be responsible for developing the content of research bulletins which it considers of permanent value. A research bulletin is a document consisting of a collation of technical information on a particular subject (from the Handbook, research project reports, technical papers, standards or other sources) and may include additional analysis or other effort to synthesize the source material into a single, more comprehensive resource.

(99-06-24-28/08-06-25-15A)

#### **2.421.004.7 Awards & Grants** (14-07-02-26)

(99-01-28-66/07-06-27-33/11-06-29-13/14-07-02-26)

#### **2.421.004.8 Intersociety Representatives**

### **2.421.05 STRATEGIC PLAN**

(09-06-21-12C)

### **2.421.06 MANUALS AND PROCEDURES**

- 2.421.06.1 This committee is responsible for reviewing, recommending changes and interpreting the following:

- A. Model Research Agreement
- B. Model Research Co-Funding Memorandum of Understanding (MOU)
- C. Recommended Qualifications for new RAC Members
- D. Research Strategic Plan

## 1. GENERAL RESPONSIBILITIES

- 1.1. TechC shall be responsible for oversight and coordination between the following seven standing committees which report to TechC.
  - 1.1.1. Environmental Health Committee (“EHC”)
  - 1.1.2. Global Technical Interaction Committee
  - 1.1.3. Research Administration Committee (“RAC”)
  - 1.1.4. Refrigeration Technology Committee for Process and Cold Chain
  - 1.1.5. Residential Building Committee (“RBC”)
  - 1.1.6. Standard Committee
  - 1.1.7. Technical Activities Committee (“TAC”)
- 1.2. TechC shall act on items as authorized by the Board of Directors (“BOD”) or shall make recommendations for the BOD actions in accordance with the authority granted to TechC and as specified in the ROB.
  - 1.2.1. Actions for which TechC acts for the BOD
    - 1.2.1.1. Approval of research projects per the ROB.
    - 1.2.1.2. TechC delegates approval of research projects with a lower dollar threshold to RAC, as described in the TechC Reference Manual.
    - 1.2.1.3. Items which are within existing policy and fiscal limits.
    - 1.2.1.4. Items that are internal to TechC.
    - 1.2.1.5. Approval of changes to the Model Research Agreement with the concurrence of ASHRAE legal counsel.
    - [1.2.1.6. Appointment of the Research Advisory Panel \(RAP\) and approval of the ASHRAE Research Strategic Plan \(RSP\)](#)
  - 1.2.2. Items for which TechC recommends BOD action:
    - 1.2.2.1. Research projects exceeding the authority of TechC.
    - 1.2.2.2. Position Documents.
    - 1.2.2.3. Changes or additions to existing Society policies.
    - 1.2.2.4. Items that concern another Council or committee that reports thereto.
    - 1.2.2.5. Other items the BOD approval is required or that they should be made aware for possible action.
  - 1.2.3. TechC shall receive recommendations from Standing Committees that report to it, from TechC’s subcommittees, from any member of TechC, by referral from other Councils or committees of the Society, or from the BOD.
  - 1.2.4. TechC shall:
    - 1.2.4.1. act as a communications link between the following:
      - 1.2.4.1. a.) BOD and TechC
      - 1.2.4.1. b.) Standing Committees and the TechC.
      - 1.2.4.1. c.) TechC and other Councils
    - 1.2.4.2. All reports shall be written and distributed to all parties prior to regular TechC meetings and the Winter and Annual Conference BOD meeting.
    - 1.2.4.3. TechC shall review the Strategic Plan for alignment with the Goals and Initiatives as well as to suggest potential edits or inclusions in the current or future Strategic Plans.
    - 1.2.4.4. TechC shall operate in alignment or inclusions in the current or future Strategic Plans.
    - 1.2.4.5. TechC shall operate in alignment with the guiding principles of ASHRAE.

# RAC MOP

## **SECTION A - RESEARCH ADMINISTRATION COMMITTEE (RAC)**

### **Part 1 Responsibilities/Duties**

- A.1.2 The RAC shall be responsible for ~~overseeing the notifying Technology Council every eight years when a new~~ Research Advisory Panel (RAP) ~~[see Section F]. RAC shall recommend RAP members to Technology Council for their approval. RAC shall recommend approval of the ASHRAE Research Strategic Plan (RSP) to Technology Council for their approval. needs to be established to develop a new Strategic Plan for ASHRAE Research. Between major updates, RAC will review the Research Strategic Plan on an annual basis to modify, add, or delete goals as needed to better reflect the current strategic research needs of ASHRAE.~~ [ROB 2.421.004.3]

## **SECTION D – SUBCOMMITTEES**

- D1.1 Standing Subcommittees of RAC are determined by the Chair. Their membership and duties shall be defined in the RAC Reference Manual.
- D1.2 Ad hoc subcommittees may be appointed by the Chair of the Committee.
- D1.3 The Chair shall appoint the members of each subcommittee. Subcommittee members should be members of the Committee, but the Chair may appoint additional subcommittee members who are not members of RAC when there is a need for members who have experience in areas that are of immediate importance to RAC.
- D1.4 Subcommittee members are appointed for the Society year. If a member's term of service on the Committee continues into the next Society year, he/she may be reappointed to the same subcommittee or be appointed to a different subcommittee by the incoming Chair.
- D1.5 The Research Advisory Panel (RAP) is a subcommittee of RAC. RAP subcommittee members are appointed for a five (5) year term and are not voting members of RAC (unless already serving on RAC).

## **SECTION F – RESEARCH ADVISORY PANEL**

### **Part 1 Purpose**

- F1.1 The purpose of the Research Advisory Panel (RAP) is to ~~develop~~ update the ~~strategic research~~ strategic plan (RSP) for the Society. This ~~RSP strategic plan~~ shall be updated every ~~eight-five~~ years. ~~Following an update, RAP will disband and the panel will cease~~

to exist for five years. RAP will be reconstituted by Technology Council in the latter half of the fifth year of the 8-year update cycle.

The purpose of the Research Strategic Plan (RSP) is to identify key HVAC&R research needs and to provide that information to ASHRAE members and Technical Committees as guidance while they develop research projects and to the Research Administration Committee as it approves and funds research proposals. The Research Plan is not meant to take the initiative for research design from the cognizant committees, but rather to use input from ASHRAE members to identify strategic research needs that are appropriate for many committees to collaborate on, that may require larger budgets, and for which additional outside funding may be available to supplement ASHRAE's budget. Proposed research topics that address in part or whole the broad themes/topics of the Society's RSP will receive priority in research funding if approved by RAC. Project topics not related to the strategic plan can still be submitted for review and may be approved for funding if, in the opinion of RAC membership, the topic is timely and needed.

Between major updates, RAP will review the RSP on an annual basis to modify, add, or delete goals as needed to better reflect the current strategic research needs of ASHRAE. RAP will measure progress on the current RSP and track the alignment of RSP goals with goals from the ASHRAE Strategic Plan of research generated by ASHRAE committees.

## Part 2 Membership

F2.1 The membership qualifications and appointment procedures are specified in the Technology Council MOP. Members of RAP should be a mixed group of ten experienced design engineers, educators, policy makers, international members, and/or researchers who are all forward-thinking individuals. RAP shall include a chair, the VC of RAC, a member outside North America, a former RAP member, and six (6) more members.

RAP subcommittee members are appointed for a five (5) year term.

## Part 3 Meetings

F3.1 RAP will meet at least two (2) times each year at the winter and Annual Society meetings during its 3-year term.

F3.1.1 The Chair of RAP shall determine the time of meeting in consideration of the responsibilities and convenience of the members.

F3.1.2 The meeting shall be at the location of the RAC meetings.

F3.1.3 A quorum shall consist of a majority of the panel membership.

F31.4 ASHRAE shall reimburse airline or comparable travel costs for prescribed RAP meetings but does not defray the other costs.

F3.2 Attendance at RAP meetings is open to all Society members, to all registered for Society meetings, and to those invited by the Chair.

F3.2.1 All guests shall be permitted to participate in discussion at the discretion of the Chair, but none shall have voting rights.

F3.3 The Chair is responsible for ensuring that a written notice of a meeting including an agenda with support materials, be sent not less than fifteen (15) days before the date of the meeting to all members, Chair of the Research Administration Committee, and the MORTS.

F3.4 In addition to Society meetings, RAP may request additional meetings to gather additional information with approval of RAC.

#### Part 4 Responsibilities

F4.1 RAP shall have responsibility for collecting and evaluating information on leading-edge technology of interest to and bearing on the HVAC&R industry and to develop the 85-year strategic research plan. Where appropriate, RAP shall also recommend modification to policies and procedures that make research into these areas more feasible, streamline the ASHRAE research process, and assist with technology transfer, getting results of ASHRAE research to ASHRAE membership.

#### Part 5 Minutes and Reports

F5.1 The RAP Chair shall be responsible for the preparation and distribution of minutes and reports of RAP meetings.

F5.1.1 The RAP Chair shall report RAP activities at the appropriate point in the agenda of the RAC meeting.

F5.1.2 The RAP Chair or designee shall make recommendations for RAC action.

**Commented [SH1]:** Per D1.1 and following what is done for other RAC subcommittees, info on RAP subcommittee of RAC should likely be moved from RAC MOP to RAC Reference Manual

## **SECTION A - SUBCOMMITTEES**

### **Part 1 Subcommittee Organization**

A1.1 Standing Subcommittees of RAC are determined by the Chair. Current subcommittees are:

- Research Activities Subcommittee (RAS)
- [Research Planning Subcommittee \(RPS\)](#)
- [Research Advisory Panel \(RAP\)](#)

A1.2 Ad hoc subcommittees may be appointed by the Chair of the Committee.

A1.3 The Chair shall appoint the members of [each RAS & RPS subcommittee](#). Subcommittee members should be members of RAC, but the Chair may appoint additional subcommittee members who are not members of RAC when there is a need for members who have experience in areas that are of immediate importance to RAC.

A1.4 [Subcommittee RAS & RPS](#) members are appointed for the Society year. If a member's term of service on RAC continues into the next Society year, he/she may be reappointed to the same subcommittee or be appointed to a different subcommittee by the incoming Chair.

[A1.5 RAP members are appointed according to procedures in RAC MOP](#)

### **Part 4 Research Advisory Panel (RAP)**

#### **A.4.1 Purpose**

[A4.1.1 The purpose of the Research Advisory Panel \(RAP\) is to update the research strategic plan \(RSP\) for the Society. This RSP shall be updated every five years.](#)

[A4.1.2 The purpose of the Research Strategic Plan \(RSP\) is to identify key HVAC&R research needs and to provide that information to ASHRAE members and Technical Committees as guidance while they develop research projects and to the Research Administration Committee as it approves and funds research proposals. The Research Plan is not meant to take the initiative for research design from the cognizant committees, but rather to use input from ASHRAE members to identify strategic research needs that are appropriate for many committees to collaborate on, that may require larger budgets, and for which additional outside funding may be available to supplement ASHRAE's budget. Proposed research topics that address in part or whole the broad themes/topics of the Society's RSP will receive priority in research funding if approved by RAC. Project topics not related to the strategic plan can still be submitted for review and may be approved for funding if, in the opinion of RAC membership, the topic is timely and needed.](#)

[A4.1.3 Between major updates, RAP will review the RSP on an annual basis to modify, add, or delete goals as needed to better reflect the current strategic research needs of ASHRAE. RAP will measure progress on the current RSP and track the alignment of RSP goals with goals from the ASHRAE Strategic Plan of research generated by ASHRAE committees.](#)

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A4.1.4 RAP shall have responsibility for collecting and evaluating information on leading-edge technology of interest to and bearing on the HVAC&R industry and to develop the 5-year strategic research plan. Where appropriate, RAP shall also recommend modification to policies and procedures that make research into these areas more feasible, streamline the ASHRAE research process, and assist with technology transfer, getting results of ASHRAE research to ASHRAE membership.

A4.2 Membership

A4.2.1 Members of RAP should be a mixed group of ten experienced design engineers, educators, policy makers, international members, and/or researchers who are all forward-thinking individuals. RAP shall include a chair, the VC of RAC, a member outside North America, a former RAP member, and six (6) more members.

A4.2.2 RAP subcommittee members are appointed for a five (5) year term.

A4.3 Meetings

A4.3.1 RAP will meet at least two (2) times each year at the winter and Annual Society meetings.

A4.3.2 The Chair of RAP shall determine the time of meeting in consideration of the responsibilities and convenience of the members.

A4.3.3 The meeting shall be at the location of the RAC meetings.

A4.3.4 A quorum shall consist of a majority of the panel membership.

A4.3.5 ASHRAE shall reimburse airline or comparable travel costs for prescribed RAP meetings but does not defray the other costs.

A4.3.6 Attendance at RAP meetings is open to all Society members, to all registered for Society meetings, and to those invited by the Chair.

A4.3.7 All guests shall be permitted to participate in discussion at the discretion of the Chair, but none shall have voting rights.

A4.3.8 The Chair is responsible for ensuring that a written notice of a meeting including an agenda with support materials, be sent not less than fifteen (15) days before the date of the meeting to all members, Chair of the Research Administration Committee, and the MORTS.

A4.3.9 In addition to Society meetings, RAP may request additional meetings to gather additional information with approval of RAC.

**Commented [SH1]:** This is from RAC MOP. Can include here (like other subcommittees) or keep in MOP

**SECTION B - RESEARCH LIAISONS**Part 4 Specific Responsibilities

RAC Reference Manual

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- B4.1 The Research Liaison is responsible for communicating with TC/TG/MTGs where there are research coordination issues. Where these coordination issues require face-to-face communications, he/she should attend TC/TG/MTGs meetings and TC/TG/MTGs Research Subcommittee meetings.
- B4.2 The Research Liaison shall attend the Research Subcommittee Chair's meeting at each Annual and Winter meeting.
- B4.3 Tasks Expected of Research Liaisons
  - B4.3.1 Keep TC/TG/MTG members in your Section informed of the status of the **ASHRAE Research Strategic Plan (RSP)** and Research Implementation Plan (RIP). Recommend action to the TC/TG in response to the RSP and RIP. Assist TC/TG/MTGs in submitting potential research projects, which are appropriate for ASHRAE to fund.

## **1. RESEARCH STRATEGIC PLANNING AND OVERALL APPROVAL PROCESS**

### **ASHRAE Research Strategic Plan**

The **ASHRAE Research Strategic Plan** (RSP) is updated every five years by the **Research Advisory Panel** (RAP) with input solicited from the TCs (and TGs, MTGs w/research authority, SSPCs, and other committees authorized to sponsor research projects), standing committees/councils and from individuals and organizations outside ASHRAE but with the same or related interests to ASHRAE. The RSP is approved by the Technology Council. The Society's Officers and Board members receive counsel on the RSP from the members through the Region-Chapter organization and through the Council-Committee organization.

The Society's **Research Strategic Plan** (RSP) covers a five -year period. Between major updates, RAP will review the RSP on an annual basis to identify needs for modification, addition, or deletion of goals. The review process will include measuring progress on the current RSP and tracking of alignment of RSP goals with Societies Strategic Plan and with the goals of RTARs generated by ASHRAE Committees. Based on this review, funding priorities may be changed to encourage under-represented project topics. The current **RSP**, which is available from ASHRAE Headquarters and posted on the Research Page of the ASHRAE Web site, should be consulted for the latest information on the overall research goals of the Society. The research priorities and broad themes/topics outlined in the RSP are communicated to the TCs to guide them in their planning and development of specific research project topics.

### **Research Advisory Panel**

The **Research Advisory Panel (RAP)** consists of a mixed group of ten experienced design engineers, educators, policy makers, and/or researchers who are all forward-thinking individuals appointed by the Technology Council Chair. Their mission is to develop the **RSP** for the Society by examining research frontiers and critical issues that may form barriers to progress and developing a RSP for the benefit of the HVAC&R industry and the general public. RAP makes recommendations to the Research Administration Committee (RAC), TCs and others regarding research, technologies and concepts that the Society should be investigating. Their work is of an advisory nature, and they work within the other procedures outlined in this manual.

### **Research Priorities**

The purpose of the **RSP** is to identify key HVAC&R research needs and to provide that information to ASHRAE members and Technical Committees as guidance while they develop research projects and to the Research Administration Committee as it approves and funds research proposals. The Research Plan is not meant to take the initiative for research design from the cognizant committees, but rather to use input from ASHRAE members to identify strategic research needs that are appropriate for many committees to collaborate on, that may require larger budgets, and for which additional outside funding may be available to supplement ASHRAE's budget. Proposed research topics that address in part or whole the broad themes/topics of the Society's RSP will receive priority in research funding if approved by RAC. Project topics not related to the strategic plan can still be submitted for review and may be approved for funding if, in the opinion of RAC membership, the topic is timely and needed.

Each year RAC develops a priority list of research topics for further development that have been proposed by TCs to RAC in the form of a "Research Topic Acceptance Request (RTAR)." This list is called

the “ASHRAE Research Implementation Plan,” and it represents the Society’s efforts to implement the RSP’s goals.

In addition to projects originated by TCs in the form of RTARs and Work Statements, ASHRAE also supports projects originated by individual researchers in the form of Unsolicited Research Proposal or International Research Proposal. In either case, projects that address the goals of the ASHRAE RSP have a higher probability of being approved for ASHRAE funding.

### **3. RESEARCH IMPLEMENTATION PLAN & RESEARCH TOPIC ACCEPTANCE REQUESTS (RTARs)**

#### **3.1 Relationship between TC/TG/SSPC and Society Research Plans**

Each TC (TG, MTG w/research authority, SSPC, and other committees authorized to sponsor research projects) should develop and maintain a long-range research plan, which is a prioritized list of prospective research topics. These “Research Plans” should be continually updated and documented in the TC’s minutes for the benefit of incoming Chairs and other interested parties.

Research Topic Acceptance Requests (RTARs) are used by the TC to advance research topics from the TC’s long-range research plans to the ASHRAE Research Implementation Plan. Among other things, the RTAR should demonstrate the research topic supports the **ASHRAE Research Strategic Plan**, or if this is not the case, provide a strong justification for the need for the proposed research.

Work Statements (WSs) are the means by which TCs transform approved topics on the ASHRAE Research Implementation Plan into research projects, for which the Society solicits bids. Projects with WSs approved for funding by the Society but not yet awarded to the contractor are referred to as Tentative Research Projects (TRPs). Projects awarded to the contractor but not yet completed are classified as Research Projects (RPs).

Within ASHRAE the term “Sponsoring TC” is used to designate the committee, which is putting forward first the RTAR, then the WS, and is responsible for selecting the contractor (with assistance of a Proposal Evaluation Subcommittee) and oversight of the project (with assistance of a Project Monitoring Subcommittee). Other committees may assist the Sponsoring TC in this effort; they are referred to as Co-Sponsoring TC(s).

The products of ASHRAE research include improved standards, handbooks, guidelines, codes; special publications, software, web-based tools; and papers and journal articles that advance HVAC&R science and technology. ASHRAE research is the technical underpinning of the Society. It all starts with ideas for research to satisfy a Society need, and these ideas generally originate in the TCs. The bottom-up process just described, and the relationships between TC and Society research plans are summarized in the table below.

#### **ASHRAE Research is the Technical Underpinning of the Society**

#### **3.2 RTAR Submission and Approval Process**

a) Pick a topic that ranks highly on the TC’s long-range research plan (if topics have little support at the TC level they are unlikely to be approved by the Society) and can be described in a manner that demonstrates clear support of the **ASHRAE Research Strategic Plan** (*Navigation for a Sustainable Future*). The topic need not contribute directly to the goals identified in the **Research Strategic Plan**; however, those that do will likely be given a higher priority for funding when research funds are limited.

b) Do your homework:

- Review the key literature and demonstrate you have done so by citing the key references.
- Demonstrate a firm grasp of relevant prior work.
- Clearly define the state-of-the-art and information gaps.
- Define a valuable and doable objective.
- Identify the specific goals served within the ASHRAE **Research Strategic Plan**, to what degree and why. If none of the goals in the **Research Strategic Plan** are supported by the topic, the proposed research will likely receive greater scrutiny by RAC.
- Clearly define the advancement to the state-of-the-art and provide quantitative estimates of the improvement expected wherever possible.
- Clearly define the justification and value to ASHRAE, being as quantitative and specific as possible.

### 3.3 Research Topic Acceptance Requests (RTARs) Coversheet

#### Research Topic Acceptance Request Cover Sheet

(Please Check to Insure the Following Information is in the RTAR)

- A. Title
- B. Executive Summary
- C. Background
- D. Research Need
- E. Project Objectives
- F. Expected Approach
- G. Relevance and Benefits to ASHRAE
- H. Funding Level & Duration
- References

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| * |

Date: **month, day, year**

Title:

XXXXXX

RTAR# ####

(To be assigned by MORTS )

Results of this Project will affect the following Handbook Chapters, Special Publications, etc.:

Responsible TC/TG: **TC 0.0**

Date of Vote: **month, day, year**

For  
Against  
Abstaining  
Absent or not returning Ballot  
Total Voting Members

\*  
\*  
\*

|   |
|---|
| X |
| X |
| X |
| X |
| X |

RTAR Lead Authors:

XXXXX

Expected Work Statement Lead Author:

XXXXX

Research Classification:

Basic/Applied Research:

Advanced Concepts:

Technology Transfer:

|   |
|---|
| X |
| X |
| X |

Co-sponsoring TC/TG/SSPC (give vote and date):

**TC 0.0 (#-#-#-# CNV) month, day, year**

**TC 0.0 (#-#-#-# CNV) month, day, year**

**Supports ASHRAE Research Strategic Plan Goals?**

Goal #

Goal #

Goal #

Potential Co-funders (organization, contact person information):

Has an electronic copy been furnished to the MORTS?

Has the Research Liaison reviewed RTAR?

Yes

No

|  |
|--|
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|  |

\* Reasons for negative vote(s) and abstentions

One voter who abstained simply did not feel familiar enough with this topic and issues.

One voter who abstained may bid on the project.

Negative voter felt project budget should be larger.

## **. WORK STATEMENTS**

### **4.1 Work Statement Development and Approval Process**

The Work Statement (WS) is normally the responsibility of the Research Subcommittee of a TC (or TG, MTG w/research authority, SSPC, and other committees authorized to sponsor research projects), which should prepare Work Statements for each approved RTAR. The RTARs are developed into Work Statements and are sent to the ASHRAE MORTS. These work statements will be reviewed by RAC to determine if they define a clear and obtainable research result, propose a viable technical approach, and are likely to interest several competitive bidders. A biddable Work Statement clearly explains the objectives, scope, and deliverables. A WS derived from a RAC-approved RTAR has already been determined to be an appropriate research project for ASHRAE. This means that it will advance the state of the art, provide value to ASHRAE membership, and either support the ASHRAE Research Strategic Plan directly, or address a research need not identified in the Research Strategic Plan but deemed timely and important. The ASHRAE Research Implementation Plan (RIP) lists all approved RTARs and all pending and approved for bid work statements submitted to RAC. The RIP is posted on the ASHRAE Website for reference.

A Work Statement should be prepared immediately after the RTAR is approved by RAC. A Work Statement may be prepared and submitted without a preliminary RTAR approval if, for example, there is an extremely time-critical need for results. There should be a strong justification for this. However, the TC risks having its basic research goal not approved or needing to rewrite the WS extensively. The RTAR approval is designed:

- To ensure that the topic is suitable for ASHRAE research and the TC addresses the goals of the ASHRAE Research Strategic Plan or provides a strong justification for topics that do not directly support the goals of the Research Strategic Plan.
- To allow RAC and Tech Council to review the approach and suggest additional references, identify other TCs that should be consulted, and/or suggest enhancements or refinements to the suggested technical approach.

Submission of the RTAR is designed to speed the overall process – reducing the time to go from research idea to release of the Request for Bids.

When preparing a WS, the TC may ask specialists in the area of the Work Statement to assist, even potential bidders. Care must be taken to avoid actual or perceived conflicts of interest. To do this, the principal authors of the Work Statement will be identified on the Work Statement Cover Sheet. Subsequently, bidders who assisted in Work Statement preparation will identify themselves as such in their proposal, and evaluators will satisfy themselves that these preparers did not gain an unfair advantage. The TC should also consider other TCs, which have direct or related interest in the subject project and invite them to participate in the Work Statement preparation, to vote to endorse the WS, and to have representatives on the Proposal Evaluation Subcommittee (PES) and the Project Monitoring Subcommittee (PMS).

In preparing a Work Statement for a project dealing with the monitoring of buildings in the field, the "Recommendations for the Design of ASHRAE Sponsored Field Monitoring Projects" contained in Appendix 2 should be considered. In preparing a Work Statement associated with Computational Fluid Dynamics, the "Guidelines for the Selection and Use of Computational Fluid Dynamics," in Appendix 3 should be reviewed and considered.

## 4.2 Work Statement Preparation

The Work Statement submitted by a TC (TG, MTG w/research authority, SSPC or other committees authorized to sponsor a research project) expands the RTAR and is the only technical document that potential bidders will receive. The WS must contain all of the following sixteen elements, eight of which are either imported directly or expanded from RTAR elements.

1. Title: (from RTAR)
2. Executive Summary:
3. Applicability to ASHRAE **Research Strategic Plan**: (from RTAR)
4. Application of Results: (from RTAR)
5. State-of-the-Art (Background): (from RTAR)
6. Advancement to the State-of-the-Art: (from RTAR)
7. Justification and Value to ASHRAE: (from RTAR)
8. Objectives: (from RTAR)
9. Scope/Technical Approach:
10. Deliverables/Where Results Will Be Published:
11. Level of Effort:
12. Proposal Evaluation Criteria & Weighting Factors:
13. Critical Project Milestones
14. Authors
15. References: (from RTAR)
16. Other Information to Bidders (Optional):

The TC needs to put enough information into the Work Statement to explain to people not familiar with the TC's deliberations what the problem is, why this research is needed, what types of results are expected and how they will be used, and indicate what methods and scope of research the TC expects from the contractor.

The Work Statement should be accompanied by a Cover Sheet as shown in Section 4.3. Section 4.4 contains a Work Statement outline, which explains each element in detail. Appendix 4 is an example of a Cover Sheet and well-written Work Statement.

## 4.3 Work Statement Cover Sheet

The purpose of the Work Statement Cover Sheet is to ensure that all WS items are complete. Also, the Cover Sheet:

- records the votes of the sponsoring and all co-sponsoring TCs on the Work Statement
- lists the members of the subcommittees which will evaluate the proposals and monitor the project,
- recommends suggested bidders,
- denotes which Handbook chapters or other ASHRAE publications will be affected by the results of the research,
- lists the Work Statement's authors,
- lists at least three prospective bidders in addition to any Work Statement authors who may bid

## 4.4 Work Statement Outline

**WORK STATEMENT#** (Same as RTAR#)

SPONSORING TC/TG/MTG/SSPC:# & NAME

CO-SPONSORING TC/TG/MTG/SSPCs (List only TC/TG/MTG/SSPCs that have voted formal support)

**Title:** (Same as RTAR)

### **Executive Summary:**

(100-word statement that could be used at the BOD level to succinctly summarize the current state-of-the-art, the advancement this project is expected to accomplish, and its value to ASHRAE and society in general.)

### **Applicability to the ASHRAE Research Strategic Plan:**

(List the specific goals from the current **ASHRAE Research Strategic Plan** that this project will support by name and/or number. State how the proposed project will help achieve each of these goals. Projects are not required to contribute directly to the strategic goals, but those that do will likely be given a higher priority for funding when research funds are limited.)

## 4.5 Tips for Writing an Effective Work Statement

A Work Statement is a document that is utilized to convince ASHRAE to fund research projects and inform the bidders what is expected to be in the final results. The Work Statement contains different items and is found in the Work Statement outline in Section 3.4 of this manual. Incomplete (unclear) entries in these items will lead to delays in approving the Work Statement.

### **Project Justification**

Is the project included in the ASHRAE Research Implementation Plan (i.e., was an RTAR submitted and approved by RAC), or is there a strong rationale provided for submitting the Work Statement without a prior RTAR submittal?

The Executive Summary, Application of Results, State of the Art (background and advancement) sections shall be brief and right to the point about how the project will be a benefit to ASHRAE Society and its members.

Are project benefits evident? Alternatively, are adverse impacts of not pursuing the project apparent? Will the results still be useful when completed?

Do the project objectives fall within ASHRAE's Scope? Involvement of outside professions in performing all or part of the work does not necessarily negate pertinence.

Is the project consistent with the Society's current **Research Strategic Plan?** List specific goals in the Plan that are addressed by the proposed research.

Is the project original (e.g., not an unnecessary duplication of another research project completed or underway)? Repetition of prior research may be desirable if pertinent facets have changed, the results are not publicly available, or confirmation is justified. Projects resulting in products that compete with commercial offerings are generally not approved. If previous projects need updating, has the sponsoring TC (original project) been contacted?

#### Additional Tips

RAC provides training at the Society's meetings for individuals involved in initiating research projects. RAC welcomes suggestions on topics to be covered.

Each TC has a Research Liaison that is a member of RAC. The Work Statement should be reviewed by the liaison prior to submitting the Work Statement to headquarters. This person will provide assistance in making sure that the Work Statement contains the required information for review.

RAC encourages TCs to prepare and submit Work Statements responsive to "Needed Research" listed in the **ASHRAE Research Strategic Plan**. Work Statements for projects not listed in the Plan may be prepared and submitted, but a strong justification for approval should be included. RAC is obligated to meet the funding guidelines set by the Board and reflected in the annual Research Budget. If considerably more Work Statements have been approved for bid than the research funding available, bidding on those Work Statements that are less responsive to the ASHRAE **Research Strategic Plan** may be delayed.

## ASHRAE RESEARCH PROJECT ANALYSIS

(Completed by Staff January)

Project Number & Title: "

Responsible TC/TG/MTG/SSPC:

Justification of Need:

Work Statement Authors:

### Research Strategic Plan Goals Applicable to this Research:

RTAR Submitted:

Position on Implementation Plan:

Coordinated with TC/TG/MTG:

Relates to Previous Project:

Vote of TC/TG/TG/MTG/SSPC:

Vote of RAC:

Vote of RAS:

Vote of Tech Council:

Allocation of ASHRAE Funds Per Fiscal Year

| <u>20XX-20XX</u> | <u>20XX-20XX</u> | <u>20XX-20XX</u> |
|------------------|------------------|------------------|
| \$TBD            | \$TBD            | \$TBD            |

### CRITERIA A: Best Value for ASHRAE:

Was the lowest cost responsive bid selected? **TBD** If YES, then go to CRITERIA B.

If NO, then all four of the following conditions should be satisfied for the recommended bidder to be approved

- 1) The recommended proposal has the lowest cost to ASHRAE per point (\$/point - using average score) among all responsive proposals - **TBD**
- 2) The average proposal score is five points or more higher than the average score for the lowest-cost responsive proposal - **TBD**
- 3) The proposal was scored higher than the lowest-cost responsive proposal by at least 2/3 of the PES members - **TBD**
- 4) The PES members feel selection of the higher cost recommended proposal is justified and a written explanation of their reasons has been provided - **TBD**

### CRITERIA B. Actual or Perceived Conflicts of Interest:

Was the bidder selected a WS author? **TBD** If NO then stop.

If YES, the following two additional questions should be answered as TRUE for the recommended bidder to be approved:

- 1) The selected bidder's proposal does not include material that exceeds what was requested in the WS? **TBD**
- 2) The WS does not specify unique facilities or equipment that only the selected bidder can provide? **TBD**

| <u>ESTIMATED</u> | <u>18M</u> | <u>\$50 ,000</u> | <u>SCORE</u> | <u>\$/POINT</u> |
|------------------|------------|------------------|--------------|-----------------|
| Bidder 1         | M          | \$               |              |                 |
| Bidder 2         |            |                  |              |                 |

## 7. UNSOLICITED RESEARCH PROPOSALS

An unsolicited research proposal (URP) is a research proposal initiated by a proposer seeking funding from ASHRAE. In order to be considered for funding, URPs should fall within the general research goals of the Society but not overlap significantly with ongoing or planned research activities of individual TC (or TG, MTG w/research authority, SSPC or other committees authorized to sponsor research projects). Unique and innovative projects that cut across research activities within different TCs are especially welcomed.

Unsolicited proposals should be submitted in electronic format to the Manager of Research and Technical Services (MORTS) at MORTS@ashrae.net, who assigns the URP a number and logs it into the project control system. Included with the unsolicited research proposal (URP) submission should be copies of three ASHRAE forms, Application for Grant of Funds, Procedure Statement Regarding Unsolicited Research Proposals (URPs) and Additional Information for Potential Contractors. These forms must be completed and signed by an individual having the authority to commit the institution contractually. Electronic signature is enough. Since the ASHRAE review process cannot guarantee the confidentiality of any material contained in a URP and since ideas, processes and/or techniques described may already be under consideration by a TC, the author of any URP is requested to sign the Procedure Statement Regarding Unsolicited Research Proposals (URPs) form releasing ASHRAE from responsibility for proprietary or confidential material in the URP. (See Guidelines for Unsolicited Research Proposals)

### 7.1 Evaluation of Unsolicited Research Proposal (URP)

The MORTS will work with the Chair of Research Activities Subcommittee (RAS) of Research Administration Committee (RAC) to identify an appropriate liaison from RAC, who will have responsibility for guiding the URP through the evaluation process. In most cases, the URP liaison will be the Research Liaison for the section of TCs that best aligns with the focus of the URP. However, in some cases, the MORTS and RAS Chair may choose a URP liaison from RAC who has unique expertise for evaluating the URP. The following process will be followed in evaluating URPs:

- 1) The URP liaison shall form a review committee of 3-5 additional RAC reviewers and will perform an initial evaluation of the URP using the URP review form from Section 7.2 of this manual to determine whether it should be considered for funding by ASHRAE as a URP:
  - a. **Innovation:** Is the proposed research innovative in concept and application?
  - b. **Distinctiveness:** Does the proposed research involve unique approach, skills, equipment which otherwise are not available to any other researchers?
  - c. **New Research Topic:** Is this a new subject of research which TCs have not proposed yet?
  - d. **Timeliness:** Would a significant opportunity be lost if the project had to go through ASHRAE Research process?
  - e. **Co-Funding:** Is significant co-funding or cost sharing available for the proposed research?

AT LEAST ONE QUESTION ABOVE MUST BE ANSWERED "YES" IN ORDER TO QUALIFY THE PROPOSAL AS A URP.

**Commented [DS1]:** This is essential, but with no means to assure the proposer has either the ability or desire to do this, and we are not asking that they document. The policy then generally assumes there IS a relevant and willing TC to evaluate properly and serve as the PMS.

We could go as far as require the proposer to document the TCs they have contacted and comments received, either demonstrating "not significantly overlap" and recommending (if any) what TCs are appropriate for PES/PMS. This seems like a reasonable expectation. It would help RAC decide if (1) it is a good project we need to find a way to support in spite of "no TC fit", or (2) they have not done expected due diligence and we should firewall it.

If we believe there should be a "high bar" set before TCs are bypassed, this introduction could do more to make that clear.

**Commented [DS2]:** I have several thoughts on this. This is a special process rather than simply using the RAS or RPS subcommittee process used for other documents. It places burden on RAS chair to find the right individual. A single URP Liaison is taking a lot of responsibility and authority without the usual resource of a subcommittee or a pair of members (e.g. two RLs for PES oversight—which usually proves itself to be very valuable).

Secondary comment: if the URP does not "overlap" with a TC it is more uncertain what single RL would be a good fit, a bit of a contradiction. We (I think) want to be more attentive to URPs that "don't fit" than those that fit a TC and perhaps should have gone there first.

**Commented [DS3]:** Suggest forming a good ad hoc committee is considerable work vs. using RAS or RPS, which function on a cadence with strong documentation and ASHRAE methodology (in event of challenges to outcomes, whether real or perceived).

IF THE PROPOSED RESEARCH DOES NOT QUALIFY FOR URP FUNDING IN OPINION OF THE RAC REVIEWER(S) - MARK "REJECT" AND NOTIFY MORTS SO PROPOSER CAN BE NOTIFIED THAT THEIR PROPOSAL HAS BEEN REJECTED FOR FUNDING BY RAC AS A URP, AND IF APPROPRIATE, THE PROPOSER WILL INSTEAD BE ENCOURAGED TO HELP DEVELOP THE PROJECT TOPIC AS A WORK STATEMENT WITH A TC FOR AN OPEN BID SOLICITATION PROCESS, ON WHICH URP PROPOSER CAN ALSO BID.

If URP passes the initial **RAC evaluation**, URP next goes to subject matter expert (SME) TC(s) for technical review and possible approval as described below **for funding using the same URP review form from Section 7.2.**

- 2) If the URP liaison determines that the URP should be considered for funding, then the liaison should identify an appropriate lead TC and ask the TC chair to form a Proposal Evaluation Subcommittee (PES) headed by the TC's Research Subcommittee Chair to evaluate the URP. If a PES is appointed, the URP liaison will next follow-up with the TC Chair and Research Subcommittee Chair to monitor the timeliness of their evaluation.
- 3) The TC's PES should use **the same URP review form from Section 7.2**, but must also consider whether the unsolicited work is of equal or greater importance than that already planned by the TC. The TC must consider the cost and benefit of the URP to the TC, the Society and the public to establish the advisability of recommending funding.
- 4) Should the PES recommend that the project be funded, the subsequent approval steps are identical to those of a solicited proposal. If the TC rejects the URP, it shall provide a brief explanation to the MORTS. In some cases, the PES may be empowered by the TC to work with the author of the URP proposal to make modifications to the scope and deliverables to better meet the TC needs. The proposed budget can also be adjusted to accommodate these changes. The TC must vote to authorize the PES to negotiate with the proposal author and then must approve any revised URP.
- 5) If disapproved at any level, the MORTS will return the URP to the proposer with a brief explanation for the reason for the rejection. A copy of this communication is sent to the TC.

Following approval and contract finalization, the sponsoring TC will establish a Project Monitoring Subcommittee (PMS) to oversee the progress of the project and to approve the final report.

**Commented [DS4]:** As noted above, this is a large workload, responsibility and authority with one person. I don't see where a recommendation is made to RAC or where RAC discussion and approval occurs—may have missed it or it may just be unstated practice. It may be there is no obvious TC(s), especially to the URP liaison, and TCs may more may not be interested or able to form a PES (and PMS commitment) for a URP. The URP liaison may not be the section RL for the subject TCs.

**Commented [DS5]:** See notes in form below.

What if the URP does not fit with a TC (which is one justification for allowing URPs)? RAC may need to solve this, don't have a recommendation.

This step is effectively equivalent to selecting the bidder in the normal process. The existing process with two RLs, stringent confidentiality, etc., can be considered, with modifications. Individual votes, then discussion, rather than reaching Accept/Reject as we do for work statements.

Not confident in a recommendation, just concern with the potential variability in outcome.

**Commented [DS6]:** It is not defined who manages this. We have careful process with competitive bidders, and the process with sole source proposals should be more stringent and "squeaky clean". This gives the TC direct negotiation with the URP proposer which could have intended or unintended conflicts and favoritism, real or perceived.

The existing PES process with primary and secondary RLs and communication controls should be considered.

The evaluation criterion are lacking. Perhaps we develop a generic set for URPs, which are reviewed and adjusted if necessary, so the PES has a basis. (the "we" would be a RAS or RPS responsibility?)

## 7.2 URP Review form used by RAC and PES Reviewers

|                                                                                                                                                                                                                                                                                                                                                                                                                |                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Project ID                                                                                                                                                                                                                                                                                                                                                                                                     |                        |
| Project Title                                                                                                                                                                                                                                                                                                                                                                                                  |                        |
| Principal Investigator (PI)                                                                                                                                                                                                                                                                                                                                                                                    |                        |
| Cost / Duration                                                                                                                                                                                                                                                                                                                                                                                                |                        |
| Classification: Research or Technology Transfer                                                                                                                                                                                                                                                                                                                                                                |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                | URP Criteria           |
| Check List Criteria                                                                                                                                                                                                                                                                                                                                                                                            | VOTED NO               |
| Innovation: Is the proposed research innovative in concept and application?                                                                                                                                                                                                                                                                                                                                    | Comments & Suggestions |
| Distinctiveness: Does the proposed research involve unique approach, skills equipment which otherwise are not available to any other researchers?                                                                                                                                                                                                                                                              |                        |
| New Research Topic: In this a new subject of research which TCs have not yet proposed?                                                                                                                                                                                                                                                                                                                         |                        |
| Timeliness: Would a significant opportunity be lost if the project had to go through ASHRAE Research open bid process?                                                                                                                                                                                                                                                                                         |                        |
| Co-funding: Is significant co-funding or cost sharing available for the proposed research?                                                                                                                                                                                                                                                                                                                     |                        |
| AT LEAST ONE "YES" VOTE ABOVE IS REQUIRED TO QUALIFY FOR FURTHER CONSIDERATION AS A URP. IF THERE IS NOT AT LEAST ONE "YES" VOTE ABOVE, MARK "REJECT" BELOW                                                                                                                                                                                                                                                    |                        |
| State-of-the-Art (Background): The proposal should include some level of literature review that documents the importance / magnitude of a problem.                                                                                                                                                                                                                                                             |                        |
| Advancement to the State-of-the-Art: Is there enough justification for the need of the proposed research? Will this research significantly contribute to the advancement of the State-of-the Art?                                                                                                                                                                                                              |                        |
| Relevance and Benefits to ASHRAE:<br>Evaluate whether relevance and benefits are clearly explained in terms of:<br>a. Leading to innovations in the field of HVAC & Refrigeration<br>b. Valuable addition to the missing information which will lead to new design guidelines and valuable modifications to handbooks and standards.<br>Is this research topic appropriate for ASHRAE funding? If not, Reject. |                        |
| IF ABOVE THREE RTAR REVIEW CRITERION ARE NOT ALL SATISFIED – MARK "REJECT" BELOW                                                                                                                                                                                                                                                                                                                               |                        |
| Proposed Project description Correct? Are there technical errors and/or technical omissions that the WS has that prevents it from correctly describing the project? If there are, then reject the proposal                                                                                                                                                                                                     |                        |
| Task Breakdown Reasonable? Is the project divided into tasks that make technical and practical sense? Are the results of each task such that the results of the former naturally flow into the latter? If not, then reject the proposal.                                                                                                                                                                       |                        |
| Adequate Intermediate Deliverables & Critical Project Milestones Identified? The project should include the review of intermediate results by the PMS at logical milestone points during the project. Before project work continues, the PMS must approve the intermediate results.                                                                                                                            |                        |
| Proposed Project Doable? Can the project as described in the proposal be accomplished? If difficulties exist in the proposal that prevent a successful conclusion of the project, then the project is not doable. In this situation, reject the proposal                                                                                                                                                       |                        |
| Time and Cost Estimate Reasonable? The time duration and total cost of the project should be reasonable so that the project can be as it is described in the proposal.                                                                                                                                                                                                                                         |                        |
| PI Qualifications: Is PI adequately qualified to successfully complete the proposed research? Does PI have enough resources and access to suitable laboratory and equipment to perform the research? If not, then reject the proposal.                                                                                                                                                                         |                        |
| THE ABOVE CRITERIA ARE SIMILAR TO THOSE FOR WORK STATEMENT EVALUATIONS. PLEASE EVALUATE SIMILAR TO WORK STATEMENT                                                                                                                                                                                                                                                                                              |                        |
| Decision Options                                                                                                                                                                                                                                                                                                                                                                                               | Decision               |
| ACCEPT                                                                                                                                                                                                                                                                                                                                                                                                         | Approval Conditions    |
| REJECT                                                                                                                                                                                                                                                                                                                                                                                                         |                        |

**Commented [DS7]:** This is very important but cannot be answered by a committee. Research is needed. Who can do this? The proposer is not going to provide this. TCs have not yet been engaged. Does the committee do research of past projects (just takes some time) or does staff gather information for the committee? Otherwise this is the most important item with the least certainty and will generally get a "pass" unless someone happens to be a SME.

The language on the previous page says the TC will consider this as well, but there is no explicit box, and they will defer to RAC (human nature) easily.

**Commented [DS8]:** Is the incremental time for the "open bid process" sufficient justification? This seems too subjective and difficult to assess the value of a comparative time reduction, unless there is a specific external deadline which has been documented in the URP.

**Commented [DS9]:** Whereas the budget is developed by the proposer and there are no competitive bids, it would be difficult to assess whether co-funding is "real". This can easily be manipulated. This question is only germane if the base cost is reasonable, which is a later question. Any smart bidder would show a retail price and a cost-share discount. The question could be whether the net cost appears reasonable—not saying that is easily answered but it seems like a better gating question.

**Commented [DS10]:** These questions do not address the validity and consistency of Objectives or Scope/Technical Approach. If these aspects are not determined to be clear and supportive of the Need and Value questions, the six questions could be answered yes but still not have a suitable or manageable project.

As with normal WS, the Objectives and Technical Approach must be sufficient to remain valid and definitive over the course of a project. It seems difficult to assess the Deliverables, Milestones, etc., if the Objectives and Technical Approach are not first assessed.

### 7.3 Guidelines for Unsolicited Research Proposals

One of the ways in which ASHRAE research projects are initiated is through the Unsolicited Research Proposal (URP). These are proposals, which are developed and planned by a researcher and then presented to ASHRAE with a request for full or partial funding. The URP should include the following information.

1. Title

2. Executive Summary

(100 word statement that could be used at the BOD level to succinctly summarize the current state-of-the-art, the advancement this project is expected to accomplish, and its value to ASHRAE and society in general.)

3. Applicability to ASHRAE Research Strategic Plan

(List specific goals of the current ASHRAE Research Strategic Plan this project will support by name and number (e.g., Goal 3 - To reduce significantly the energy consumption for HVAC&R, water heating and lighting in existing homes). State how the proposed project will help achieve the goals. If the project does not contribute to any of the goals in the ASHRAE Research Strategic Plan, a strong justification of the need for the research must be provided, and the proposal will have a lower likelihood of success. The current ASHRAE Research Strategic Plan can be found on the ASHRAE.org Web site under the Research page.)

4. Application of Results

(List handbook chapters/special publications etc. to be affected by results of this project, if known. Explain how the results of the proposed project will be disseminated to HVAC&R industry and society in general. What are the practical benefits expected from this research?)

5. State-of-the-Art (Background)

(Description of the amount and quality of past research, and quantify existing gaps.)

6. Advancement of the State-of-the-Art

(Quantitative estimate of the improvement expected from this research [i.e. x% energy reduction in product y or building type z, x% increase in heat transfer coefficient between y and z, or x% reduction in design time to do y, etc.], and explain why this information is needed by the public or by industry.)

7. Justification and Value to ASHRAE

(Identification by number, profession, or industry the ASHRAE members who will benefit. State the likelihood and how the improvement would be adopted by industry.)

8. Objectives - A paragraph describing what this URP intends to accomplish.

(Explanation of project's goals and how this project will accomplish its intended advancement to the state-of-the-art [i.e. a computer simulation will be used to do x, a computer simulation will be developed for x and verified using laboratory data from tests y and z, field test data will be obtained from x and used to do y].)

9. Scope/Technical Approach

(Provide a complete description of technical approach and task statement. Describe the parameters of the research project, including such items as: subject matter to be explored; materials, equipment, literature or other variables to be researched; materials, equipment, etc to be excluded from the project; outline the research methods to be used; description of the standards to be followed; discussion of how the data is to be reduced, analyzed and presented; description of the format for the reported results; if appropriate, describe project phases.

It is important for the scope of a research project to be broken down into tasks or phases, where a task will yield results of interest to the TC/TG/MTG/SSPC and the Project Monitoring Subcommittee (PMS), or where the results of a task will significantly define how subsequent tasks will be carried out. Make sure that the project objectives are reflected in the tasks. The URP should specify deliverables corresponding to these tasks in the "Deliverables" section to facilitate project monitoring by the PMS.)

#### 10. Deliverables

(Insert generic ASHRAE requirements listed below plus any project specific requirements.)

Progress, Financial and Final Reports, Research Paper(s), and Data shall constitute the only deliverables ("Deliverables") under this Agreement and shall be provided as follows:

- a. Progress and Financial Reports  
Progress and Financial Reports, in a form approved by the Society, shall be made to the Society through its Manager of Research and Technical Services at quarterly intervals; specifically on or before each January 1, April 1, June 10, and October 1 of the contract period.

Furthermore, the Institution's Principal Investigator, subject to the Society's approval, shall, during the period of performance and after the Final Report has been submitted, report in person to the most applicable Technical Committee/Task Group (TC/TG or Committee) at the annual and winter meetings, and be available to answer such questions regarding the research as may arise.

- b. Final Report  
A written report, design guide, or manual, (collectively, "Final Report"), in a form approved by the Society, shall be prepared by the Institution and submitted to the Society's Manager of Research and Technical Services by the end of the Agreement term, containing complete details of all research carried out under this Agreement. Unless otherwise specified, six copies of the final report shall be furnished for review by the Society's Project Monitoring Subcommittee (PMS).

The Final Report shall include an Executive Summary of approximately 800 words that includes the need that initiated the project, a brief description of the technical approach, the results and how the results will benefit the industry and/or the public.

Following approval by the PMS and the TC/TG/MTG/SSPC, in their sole discretion, final copies of the Final Report will be furnished by the Institution as follows:

- An executive summary in a form suitable for wide distribution to the industry and to the public.
- Two copies; one in PDF format and one in Microsoft Word.

- c. Research Paper(s)

One or more papers shall be submitted first to the ASHRAE Manager of Research and Technical Services (MORTS) and then to the "ASHRAE Manuscript Central" Website-based manuscript review system in a form and containing such information as designated by the Society suitable for publication. Papers specified as deliverables should be submitted for publication in the *Science and Technology for the Built Environment* (STBE). The paper(s) shall conform to the instructions posted in "Manuscript Central" for Science and Technology for the Built Environment papers. The paper title shall contain the research project number at the end of the title in parentheses, e.g., (xxxx-RP). ASHRAE Conference papers are not acceptable as deliverables from ASHRAE research projects unless explicitly approved by a vote of the PMS and TC and communicated to MORTS. Conference paper(s) shall conform to the instructions posted in "Manuscript Central" for ASHRAE Conference papers and the title shall contain the research project number at the end of the title in parentheses, e.g., (XXXX-RP).

All papers or articles prepared in connection with an ASHRAE research project, which are being submitted for inclusion in any ASHRAE publication, shall be submitted through the Manager of Research and Technical Services first and not to the publication's editor or Program Committee.

- d. **Data**  
The Institution agrees to maintain true and complete books and records, including but not limited to notebooks, reports, charts, graphs, analyses, computer programs, visual representations etc., (collectively, the "Data"), generated in connection with the Services. Society representatives shall have access to all such Data for examination and review at reasonable times. The Data shall be held in strict confidence by the Institution and shall not be released to third parties without prior authorization from the Society, except as provided by GENERAL CONDITION VII, PUBLICATION. The original Data shall be kept on file by the Institution for a period of two years after receipt of the final payment and upon request the Institution will make a copy available to the Society upon the Society's request.
- e. **Project Synopsis**  
In addition to the approximately 800 word summary in the final report, Contractor will prepare a written synopsis totaling approximately 100 words in length and written for a broad technical audience. The synopsis shall document 1. Main findings of research project, 2. Why findings are significant, and 3. How the findings benefit ASHRAE membership and/or society in general. The synopsis shall be submitted to the MORTS by the end of the Agreement term for publication in ASHRAE Insights and on the Research Page of the ASHRAE Website ( for keyword searches but Internet users) .

The Society may also request the Institution submit a technical article suitable for publication in the Society's ASHRAE Journal. This is considered a voluntary submission and not a Deliverable. Technical articles shall be prepared using dual units; e.g., rational inch-pound with equivalent SI units shown parenthetically. SI usage shall be in accordance with IEEE/ASTM Standard SI-10.

(The above deliverables are necessary, but not sufficient, to monitor a research project. The PMS and the sponsoring TC have the responsibility to review the contractor's on-going activities and intermediate results, to ensure that the methods used and results obtained will be valid and well-enough substantiated to be labeled as "ASHRAE-approved findings." Proper oversight cannot wait until the final report, when most of the budget has already been expended.

Therefore, each major task or phase of the research method outlined in the Scope should also be linked to a deliverable report, memorandum, or summary. These in-progress deliverables should not add to the cost of the project, as they will most likely become chapters of the final report. However, they should help the TC avoid unpleasant surprises due to the research not being conducted according to the TC's expectations. Examples of deliverables that could be required during the project include:

- If one task is a literature review, then the deliverable could be an annotated list of references and conclusions/summary of the current state of the art.
- If the contractor must propose specific sites (e.g., buildings), experiment topologies (e.g., duct configurations), materials (e.g., refrigerants, appliances, insulation or building materials), experiment protocols, and/or instrumentation, then short memos describing those proposed methods, materials, etc. should be deliverables to be reviewed and approved by the PMS before moving on to the next research task.
- If analysis of preliminary data or results will decide how to proceed (e.g., CFD models of 12 duct configurations will be used to select 2 duct configurations to be built and subjected to wind tunnel tests), then the contractor should write up the results of the initial analysis, recommend the areas for further more detailed investigation, and justify those recommendations.
- If data from the research are expected to modify or update a Handbook table, then the procedure for developing the updated table from the data should be specified and provided to the PMS as a deliverable. (The final report may also require the contractor to prepare a proposed updated table based on the observed data.)

In short, the technical approach for a research project should be broken down into tasks or phases, and where a task will yield results of interest to the TC and the PMS, or where the results of a task will significantly define how subsequent tasks will be carried out. The URP should specify such intermediate deliverables for the PMS to review. This approach will make it easier for the PMS and MORTS to gauge progress and technical merit of on-going ASHRAE research projects and will provide a framework for the cognizant TCs to provide technical oversight and assistance to identify and correct problems as they occur.)

11. Schedule

Provide a description of Critical Project Milestones and the likely month of completion based upon project's duration. List for example major project intermediate deliverables such as a completed literature review or the availability of initial test results or major project events such as the completion of the test fixture or access granted to field site as a critical project milestone that could have a significant negative impact on the overall project if missed or significantly increase the risk that the project will fail and in what month it is likely to expect completion of the critical project milestone based upon the contractor's estimated duration of the project

12. Costs

Detail breakdown of expenses into categories and itemized list of equipment, travel, subcontracts, and other direct expenses; Timing of expenditures; Description of cost sharing of proposing organization or others.

13. Personnel

Education, experience and expertise of researchers that qualifies them to perform the work.

14. References

List references cited in the proposal.

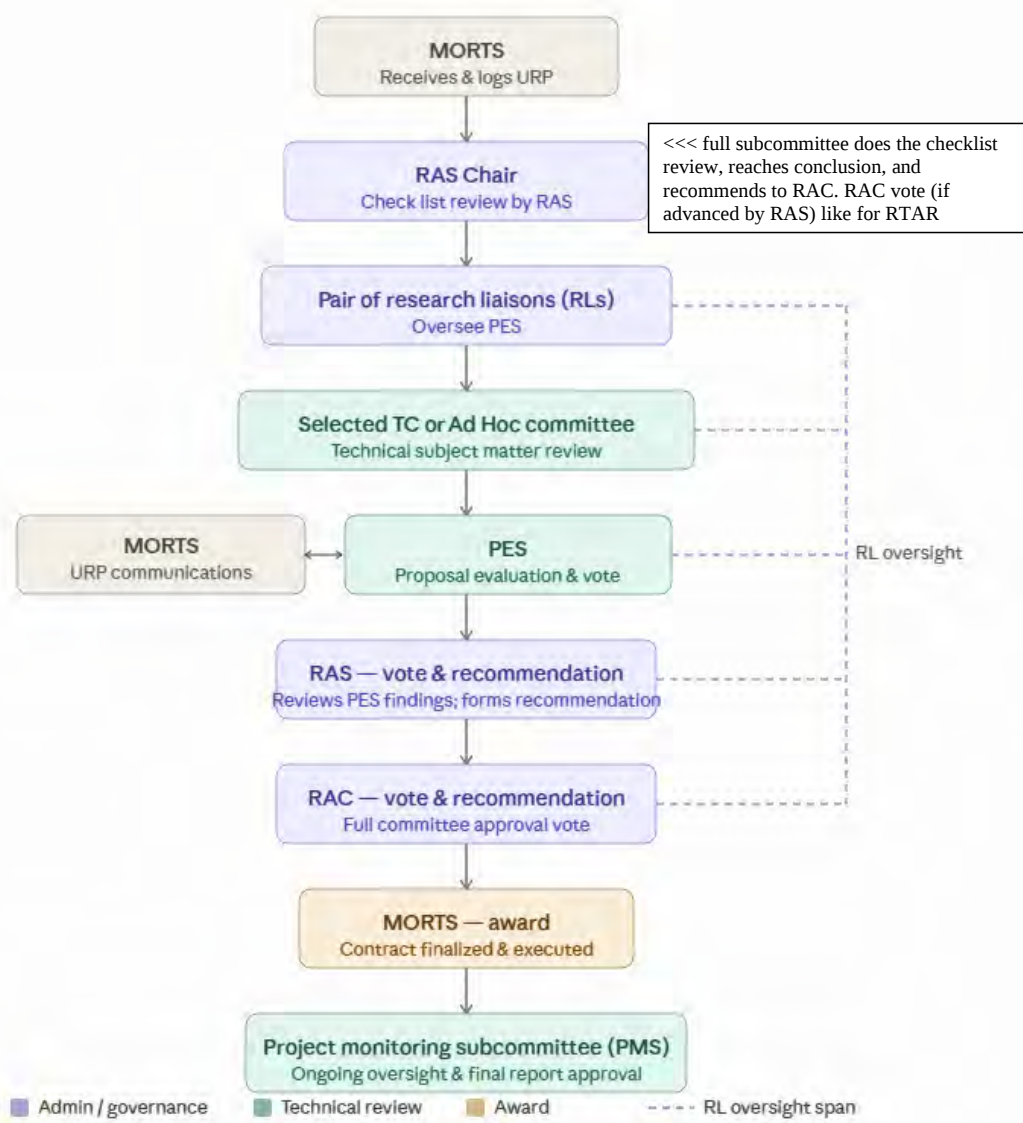
A copy of the URP, containing a completed "Application for Grant of Funds" form, should be submitted to the Manager of Research & Technical Services (MORTS), who will then distribute it to the appropriate research liaison for review and evaluation.

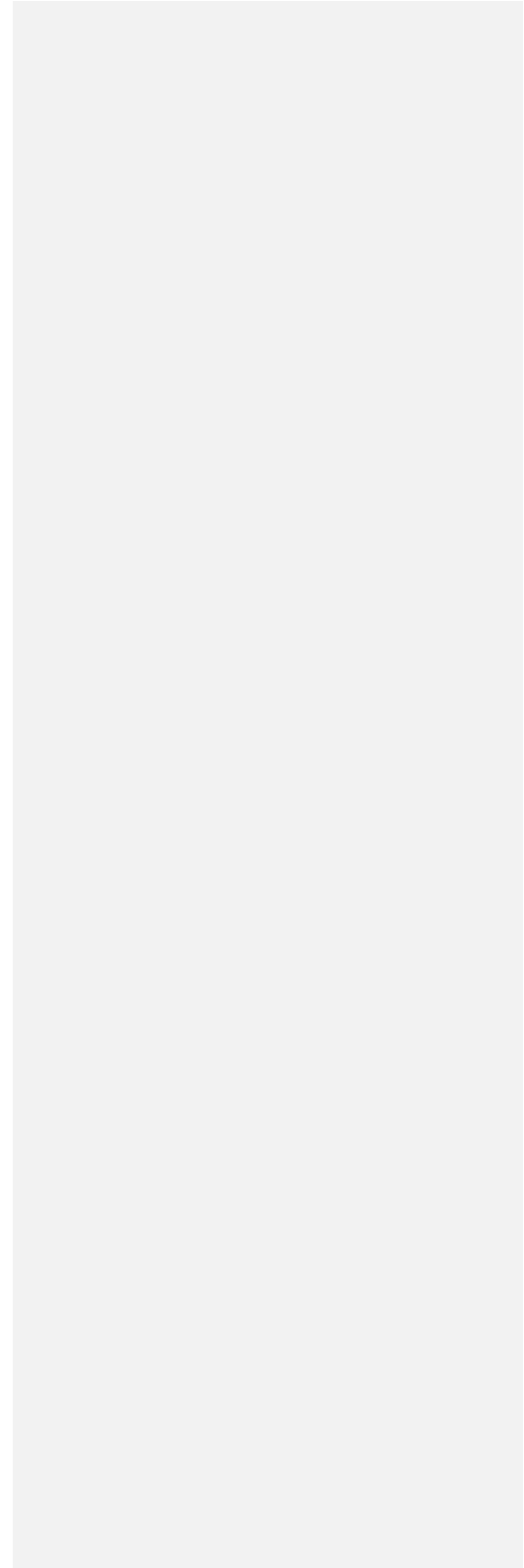
The Research Administration Committee (RAC) normally meets in late June and late January of each year, so URP's should be submitted by mid-May or by mid-December to be considered for the next meeting. The results of the reviewing committees' actions will be made known to the proposer by mid-February or mid-July.

Proposals should be submitted to:

MANAGER OF RESEARCH & TECHNICAL SERVICES  
ASHRAE  
180 Technology Parkway NW  
Peachtree Corners, GA 30092  
MORTS@ashrae.net

Start at a flow chart ... maybe more colorful than exactly accurate





| TRP                                                                                                                                                                                   | TC      | Comments                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------|
| 1886, Kinetic and Mechanistic Study of the Breakdown and Interactions of HFO Refrigerants                                                                                             | TC 3.2  | WS conditionally approved (with comments) Spring 2024 Meeting                       |
| 1941, Experimental Program to Update the ASHRAE Duct Fitting Database                                                                                                                 | TC 5.2  | WS conditionally approved (with comments) Spring 2025 Meeting                       |
| 1960, Operating cost, energy, and carbon saving benefits of pre-cooling in district energy systems                                                                                    | TC 6.2  | WS conditionally approved (with comments) Annual 2025 Meeting                       |
| 1851, Dielectric Properties of Lower GWP Refrigerants organic compounds                                                                                                               | TC 3.1  | WS conditionally approved (with comments) Spring 2026 Meeting                       |
| 1950, Effect of residential exhaust terminations on jet mechanics and resulting required intake separation                                                                            | TC 4.3  | WS conditionally approved (with comments) Spring 2026 Meeting                       |
| 1956, Compact CFD Modeling Guidance for Thin Flow Resistances                                                                                                                         | TC 4.10 | WS conditionally approved (with comments) Spring 2026 Meeting                       |
| 1951, Development of Material Moisture Tolerance Criteria and Evaluation Methodology for ASHRAE Standard 160 to Control Structural Property Degradation of Common Sheathing Materials | TC 4.4  | WS conditionally approved (with comments) Annual 2026 Meeting                       |
| 1963, Test procedure to measure In-situ chemicals emissions of labs equipment's and processes                                                                                         | TC 9.1  | WS conditionally approved (with comments) Annual 2026 Meeting                       |
| 1997, Missing Elements Characterizing Oil Related Air Contaminants in Aircraft Cabins                                                                                                 | TC 9.3  | WS conditionally approved (with comments) Annual 2026 Meeting                       |
| 1825, Quantifying Makeup Air Entering Hood and Impact of Supply Temperature on Hood Performance                                                                                       | TC 5.10 | Previous contractor ended project. Can be rebid with TC and RL review and approval. |

## MEMORANDUM

**To:** ASHRAE Leadership

**From:** ASHRAE Research Administration Committee

**Subject:** Recommended Pathway for Establishing an ASHRAE Data Repository Strategy

**Date:** May 31<sup>st</sup>, 2026

We are writing to recommend that ASHRAE pursue a formal data repository pathway to preserve, curate, disseminate, and ultimately leverage the data generated through ASHRAE-funded research and other ASHRAE activities. As ASHRAE continues to invest significant resources in research, standards development, guidelines, technical committees, and industry-facing knowledge products, the underlying data produced through these efforts represents a valuable institutional asset. Establishing a coordinated pathway for managing and sharing these datasets would increase the impact of ASHRAE research, enhance the value of ASHRAE publications and standards, and strengthen ASHRAE's leadership role in advancing the built environment industry.

A data repository should not be viewed merely as an archival function. Rather, it should be considered a strategic platform for expanding the reach and usefulness of ASHRAE's intellectual property. Research reports, handbooks, standards, and guidelines already provide significant value to members and the broader industry; however, the data behind these products can create additional value when it is properly curated, discoverable, and reusable. In many cases, data can be treated similarly to a published book or technical publication: it can be cataloged, licensed, distributed, cited, and potentially monetized. Just as ASHRAE publications generate revenue and support professional practice, high-quality datasets could become a new class of ASHRAE knowledge products.

The recommended pathway is a phased, hybrid approach. ASHRAE should begin by creating an internal data governance framework that defines ownership, access, quality control, metadata requirements, licensing, preservation expectations, and revenue considerations. For the initial phase, ASHRAE could use established external repository platforms for storage and long-term preservation while maintaining an ASHRAE-branded catalog or portal that allows users to discover datasets associated with ASHRAE research projects, standards, guidelines, and publications. This approach would avoid the high cost and administrative burden of immediately building a fully independent repository, while still allowing ASHRAE to organize, control, and promote its data assets.

Over time, ASHRAE could develop a tiered access model. Some datasets may be made openly available to increase research visibility, citation, and public benefit. Other datasets, particularly those with high commercial or technical value, could be made available as member benefits, publication supplements, licensed products, or fee-based digital resources. This would allow ASHRAE to balance its mission to advance the arts and sciences of heating, ventilating, air-conditioning, refrigeration, and related fields with the practical reality that high-quality data has market value. In today's digital economy, data is money; properly managed data can support innovation, benchmarking, modeling, product development, code and standard improvement, and evidence-based decision-making across the industry.

This pathway would also add value to ASHRAE-funded research. Too often, datasets produced through research projects are underutilized after the final report is published. By requiring appropriate data management and deposit as part of the research process, ASHRAE can ensure that the outcomes of funded projects continue to benefit the Society and the industry long after project completion. Reusable datasets could support follow-on studies, validation of models, education and training, standards development, and industry benchmarking. This would increase the return on ASHRAE's research investment and make ASHRAE-funded work more visible, transparent, and impactful.

The repository pathway could also support ASHRAE's standards and technical activities. Data generated or collected through standards development, field validation, performance testing, surveys, and technical committee work may have substantial value when organized and made accessible under appropriate conditions. Such data could help practitioners better understand system performance, inform future revisions of standards and guidelines, and enable industry partners to develop improved tools and technologies. In this way, ASHRAE's data assets could become a foundation for both technical advancement and financial sustainability.

We recommend that ASHRAE establish a small working group to develop a detailed implementation plan. This group should include representatives from research administration, publications, standards, technology, legal, finance, and technical committees. Its charge would be to define the repository scope, identify pilot datasets, evaluate repository platforms, recommend metadata and licensing policies, and propose a sustainable business model. A limited pilot using selected completed research projects would allow ASHRAE to test the process, estimate costs, evaluate user interest, and identify datasets with the greatest potential value.

In summary, a formal ASHRAE data repository pathway would position ASHRAE to better preserve and leverage the knowledge it already creates. It would increase the impact of ASHRAE research, enhance the value of standards and publications, create new opportunities for member and industry engagement, and potentially generate new revenue streams. Most importantly, it would recognize that data is not a byproduct of ASHRAE's work; it is a strategic asset that can advance the industry, strengthen ASHRAE's leadership, and provide lasting value to the communities we serve.