

MINUTES

RESEARCH ADMINISTRATION COMMITTEE MEETING SHERATON PHOENIX PHOENIX, ARIZONA

JUNE 21ST & JUNE 25TH, 2025

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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PRINCIPAL MOTIONS RESEARCH ADMINISTRATION COMMITTEE JUNE 21ST & JUNE 25TH, 2025

NO.	PAGE	MOTION
1	2	Draft minutes of the RAC spring 2025 meeting be approved as written.
2	4	1990-RTAR, Optimizing Abbreviated Weather Year Files for Faster Simulation Time with Minimal Accuracy Los, sponsored by TC 4.2 Climatic Information be accepted with comments.
3	4	<u>1953-WS</u> , Evaluation of ground source heat pumps integrated with diurnal thermal energy storage for residential and commercial buildings, sponsored by TC 6.0 and cosponsored by TC 6.09, Thermal Energy Storage, be <u>returned</u> .
4	4	<u>1960-WS</u> , Operating cost, energy, and carbon saving benefits of pre-cooling in district energy systems, sponsored by TC 6.02 – District Energy and co-sponsored by TC 6.09, Thermal Energy Storage, be <u>conditionally accepted</u> .
5	4	Dr. Andrew Sommers of Miami University be the recipient of the 2025-2026 Innovative Research Award.
6	4	1989-URP (unsolicited research proposal), "Research to Support Revisions to HVAC Simplified (2006)", be awarded to Steve Kavanaugh for a period of 18 months at a total cost to ASHRAE of \$64,250.
7	4	1991-URP (unsolicited research proposal), "A Farmwork for Feasibility Mapping and Optimization of Peer-to-Peer Heat Trading in Multi-Building Networks", be rejected by ASHRAE for funding.
8	5	a twelve-month Grant-In Aid extension be granted to international student Amirreza Mahmoudi to attend a future ASHRAE conference.
9	6	1873-TRP, Upper-Air Ultraviolet Germicidal Irradiation (UVGI) for Tall Spaces, be awarded to the University of Cincinnati for a period of 18 months at a total cost to ASHRAE of \$250,031.
10	6	1913-TRP, Study of the Corrosion Impact on Information Technology Equipment in Data Centers Located in Coastal Regions with High Sea Salt Concentration, be awarded to the Syracuse University for a period of 24 months at a total cost to ASHRAE of \$254,972.
11	6	1936-TRP, Evaluation of relative impact of air change rate (ACR) and airflow patterns on the ventilation performance of indoor spaces, be awarded to Worcester Polytechnic Institute for a period of 36 months at a total cost to ASHRAE of \$399,755.
12	6	1970-TRP, Study of Grout for Ground Heat Exchangers, be awarded to Oklahoma State University for a period of 12 months at a total cost to ASHRAE of \$49,523.

RECURRING ACTION ITEMS (EACH MEETING)

Responsibility Summary of Action

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) RAS (Secondary) Review RTARs

RAS (Primary) RPS (Secondary) **Review Work Statements**

RAS (Primary) RPS (Secondary)

Review TRPs and URPs

RPS (Primary) (Secondary)

Review and revise the Society's Research Implementation Plan based upon

accepted RTARs.

Subcommittee

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 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)

Responsibility Summary of Action

Chair Invite new RAC members to meeting and any training sessions at meeting.

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)

Responsibility Summary of Action

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)

Responsibility Summary of Action

RPS Review New Investigator Award Nominations

RPS Review Homer Addams Award Nominations

RPS Review Innovative Research Grant (IRG) Pre-Proposals

MORTS Prepare semi-annual report to RAC by May 15.

RECURRING ACTION ITEMS (SPRING MEETING)

Responsibility Summary of Action

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

LIST OF ATTACHMENTS

Attachment 1: 2024-25 MBOs final report
Attachment 2: RAC Guidance Document changes related to co-funding agreements
Attachment 3: Changes to RAC procedures to make RAP a standing subcommittee of RAC.

Attachment 4: PEAC leadership presentation



MINUTES

RESEARCH ADMINISTRATION COMMITTEE JUNE 21ST & JUNE 25TH, 2025

MEMBERS PRESENT:

Natascha Milesi-Ferretti. Chair Jin Wen. Vice Chair James Bogart Chair RAS Roland Charneux, Chair RPS Srinivas Katipamula, RL Section 1.0, RPS Chris Gray, RL Section 2.0, RPS Zheng O'Neill, RL Section 3.0, RAS Dennis Landsberg, RL Section 4.0, RAS Douglas Scott, RL Section 5.0, RPS Matthew Mullen, RL Section 6.0, RAS Allen Kirkwood, RL Section 7.0, RAS Carl Huber, RL Section 8.0, RPS Conor Murray, RL Section 9.0, RPS WenBen Ng, RL Section 10.0, RAS Xudong Wang, AHRI Consultant Susanna Hanson, BOD Ex-Officio Wade Conlan, Coordinating Officer

ASHRAE STAFF:

GUESTS:

Art Giesler

Donna Daniel, AMOR Steve Hammerling, MORTS Leigh-Lane Walker, STAFF

Brian Fricke, *Incoming Member*

Pat Marks, Incoming BOD Ex-O

MEMBERS ABSENT:

Anastasia Mylona, CIBSE Consultant

A. CALL TO ORDER & INTRODUCTIONS

Chair Milesi-Ferretti called the meeting of the committee to order Saturday June 21, 2025, at 8:00 AM EST. Members and guests in the room introduced themselves. 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 - www.ashrae.org/about/governance/code-of-ethics
Core Values - www.ashrae.org/about/ashrae-s-core-values
Diversity Statement - www.ashrae.org/about/diversity-equity-and-inclusion-dei

C. ADDITIONS AND/OR CHANGES TO THE AGENDA

Add item to O. UNFINISHED BUSINESS to discuss email received requesting an extension for international GIA student Amirreza Mahmoudi.

D. APPROVAL OF MINUTES - SPRING 2025 MEETING

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

(1) the draft minutes of the RAC 2025 spring meeting be approved as drafted.

MOTION 1 PASSED: 13-0-0-1, CNV

E. CHAIR'S REPORT

a) Disposition of Motions from Last Meeting or Letter Ballots

- 1. Eight projects bid in the Fall 2024 (0003-PRP, 1566-TRP, 1910-TRP, 1913-TRP, 1915-TRP, 1947-TRP and 1964-TRP) four were awarded with project funding motions approved by RAC in Orlando, Florida.
- 2. Motion to approve Research Advisory Panel (RAP) was approved by Tech Council

b) New & On-going Action Items Assigned by Tech. Council

 Completed RAC Budget Forecast form for TechC
 Transportation reimbursement for RAP members was communicated

c) New Information Items:

1. PMS or PES Training Webinars

RAC set fall date for PES training webinars as (Donna – what date was selected?) Recordings are available, so RAC can get the word out to all PES members. Plan may be e-mail new PES members with a call in/office hours if people have questions. PES meetings should be scheduled for before receiving proposals. It was suggested staff give RL dollar values to overlay in their meeting to eliminate a 2nd PES meeting. (Review research manual to allow this.

2. RAC Onboarding

It was suggested that incoming members meet with current Section Head, subcommittee they will be assigned to (RAS or RPS), then RAC, all before they're asked to review anything.

d) MBO Status Report

A final report on 2024-25 MBOs (**Attachment 1**) would be reported to OPS. MBOs discussed in detail are summarized here:

 MBO 1 - Collaborate with ASHRAE web developer to develop effective online research project development and tracking system.

Plan to roll out use of new Research Portal is to invite some TCs to use for August 15th deadline. All TCs can use for December 15th deadline. RL's can seek volunteers to use at Breakfast

Action #1 <MORTS>: Setup webinar as a training tool for the Research Portal.

<u>Action #2</u> <MORTS>: Share Research Portal instructions and link with TCs identified that have new RTARs and work statements to submit for August 15th deadline

 MBO 5 - Expand TC involvement in identifying, communicating with, and obtaining project co-funding support at the work statement review stage

<u>Action #3</u> < Charneux, Wen, Wang, Scott>: Review the guidance document changes related to co-funding agreements (**Attachment 2**) and add a timeline requirement for approval and any other recommendations needed before RAC Part B meeting.

MBO 7 – Identify the best mechanism to provide a data repository for RPs

Wen agreed (Gray to help) to keep working to develop requirements for data to be made available in a format that can be made available to ASHRAE members on a permanent basis as part of the project closeout. Research Agreement changes should be explored. There may be formats or procedures already out there that ASHRAE can use. TC 1.5 may be able to help as well.

Action #4 <Wen, Gray>: Develop deliverable for data from ASHRAE research projects in a format that can be made available and accessible to ASHRAE members

 MBO 9 - Update RAC MOP, Reference Manual to specify rules for formation/operation of RAP to develop research strategic plan Staff proposed changes to RAC procedures (Attachment 3) to make RAP a standing subcommittee of RAC.

F. RESEARCH ADVISORY PANEL (RAP)

The chair and members for the RAP were formally appointed: Christopher Wilkins (Chair), Chris Gray, Chun-Cheng Piao, Hyojin Kim, Jin Wen, Jon Douglas, Lisa Ng, Riley Barta, Roland Charneux and Stefan Elbel

A kickoff meeting was held May 27th and meets Tuesday morning in Phoenix as well. Staff sent draft procedures for RAP to function as a standing subcommittee of RAC in response to Spring Action Item #4.

G. BOD EX-OFFICIO & COORD. OFFICER – Hanson & Conlan

Hanson gave a PEAC leadership presentation – (**Attachment 4**) Highlights of interest to RAC include:

- New ASHRAE Strategic Plan developed for 2025-2028 (www.ashrae.org/strategicplan)
 RAP's Research Strategic Plan should address new ASHRAE Strategic Plan
- Government Affairs Committee (GAC) is seeking Subject Matter Experts (SME) to explain technical information in easy-to-understand language to elected officials and policy makers. Email: GovAffairs@ashrae.org
- Research Promotion raised \$2.7M in their annual promotion, \$1.9M for Research
- Two CEBD research projects are currently out for bid closing July 18th. Two more bids are planned to go out for bid in August.
- September 2025 deadline for RAC nominations at www.ashrae.org/nominations.

H. REVIEW OF SPRING25 ACTIONS

ACTION ITEMS - 2025 Spring Meeting

NO.	PERSON	ACTION	STATUS
1	ExCom	RAC's ExCom would finalize plan and schedule for PES/PMS training	Complete
2	Staff	Reach out to new TC 1.5 for Beta testing of the online research tool	Complete
3	Staff	Staff to propose updates to formal guidance and timeline for RP cosponsorships	On-going
4	Staff/RAC	Staff and RAC would work to develop RAP procedures making RAP a standing subcommittee of RAC to discuss in Phoenix	On-going

I. RTAR REVIEW

RTAR Review (1 new & revised RTARs) – RPS Chair Charneux Lead

It is moved and seconded that,

(2) <u>1990-RTAR</u>, Optimizing Abbreviated Weather Year Files for Faster Simulation Time with Minimal Accuracy Los, sponsored by TC 4.2 Climatic Information be <u>accepted with comments</u>.

MOTION 2 PASSED: 13-0-0-1 (14) CNV

J. WORK STATEMENT REVIEW

Work Statement review (2 new & 1 publication WSs) - RAS Chair BOGART Lead

It is moved and seconded that,

(3) <u>1953-WS</u>, Evaluation of ground source heat pumps integrated with diurnal thermal energy storage for residential and commercial buildings, sponsored by TC 6.0 and cosponsored by TC 6.09, Thermal Energy Storage, be <u>returned</u>.

MOTION 3 PASSED RAS: 5-0-0-1 (6) CNV

It is moved and seconded that,

(4) <u>1960-WS</u>, Operating cost, energy, and carbon saving benefits of pre-cooling in district energy systems, sponsored by TC 6.02 – District Energy and co-sponsored by TC 6.09, Thermal Energy Storage, be <u>conditionally accepted</u>.

MOTION 4 PASSED: 12-0-0-2 (14) CNV

K. INNOVATIVE RESEARCH GRANT

One full proposal was received - RPS Chair CHARNEUX Lead

It is moved and seconded that.

(5) Dr. Andrew Sommers of Miami University be the recipient of the 2025-2026 Innovative Research Award.

MOTION 5 PASSED: 13-0-0-1 (14) CNV

L. UNSOLICITED RESEARCH PROPOSALS (URP)

URP review (2 new) RAS Chair BOGART Lead

It is moved and seconded that,

(6) 1989-URP (unsolicited research proposal), "Research to Support Revisions to HVAC Simplified (2006)", be awarded to Steve Kavanaugh for a period of 18 months at a total cost to ASHRAE of \$64,250.

BACKGROUND: Publications Committee reviewed this request noting that the publication is a top seller and could use an update. A cognizant TC, PMS, etc. have not been identified.

MOTION 6 PASSED: 13-0-0-1 (14) CNV

[Note, this needs assignment to a Technical Committee for review and establishment of a PES before URP can proceed.]

<u>Action #5</u> <MORTS>: Staff would work with Publications staff to identify a cognizant TC for the project.

<u>Action #6</u> <MORTS>: Consider and draft procedures for a different category of research for Publication URPs as appropriate.

<u>Action #7</u> <MORTS>: Review URP procedures to determine RAS/RPS responsibilities and consistency of rules.

It is moved and seconded that,

(7) <u>1991-URP</u> (unsolicited research proposal), "A Farmwork for Feasibility Mapping and Optimization of Peer-to-Peer Heat Trading in Multi-Building Networks", be rejected by ASHRAE for funding.

MOTION 7 PASSED RPS: 5-0-0-1 (6) CNV

M. CONSULTANTS REPORTS

a) AHRI – Xudong Wang

There are two RTARs in the works for potential AHRI co-funding. Wang noted AHRI is working with DOE and the national labs on initiatives looking at A3 risk assessments and another round of A2L evaluation programs.

b) CIBSE – Anastasia Mylona CIBSE consultant was not in attendance.

N. RESEARCH SUBCOMMITTEE CHAIRS BREAKFAST

Breakfast taking place Mon., 7:00 to 9:30 AM MST at the Sheraton Phoenix Downtown, Phoenix B (Level 3). RAC developed a proposed agenda:

- a) RAC Objectives and Membership
- b) ASHRAE Strategic Plan and Research Advisory Panel
- c) Research Promotion
- d) Budget update and Proposal Activity
- e) ASHRAE Research Portal Update
- f) Awards
- g) Summary

Milesi-Ferretti would collect and finalize slides for the breakfast. Final slides for the presentation would be posted to ASHRAE Research Subc Chairs Basecamp - https://3.basecamp.com/3106353/projects/25778014.

RL's would review list of Reminders for TCs in breakout sessions.

O. UNFINISHED BUSINESS

Staff received another request to extend the number of months to attend an ASHRAE conference to collect GIA funds. This request was related to international travel and visa delays.

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

(8) a twelve-month Grant-In Aid extension be granted to international student Amirreza Mahmoudi to attend a future ASHRAE conference,

MOTION 8 PASSED: 13-0-0-1 (14) CNV

<u>Action #8</u><MORTS>: Staff was asked to review GIA procedures to expand ASHRAE Annual Conference attendance to any ASHRAE technical conference.

MEETING RECESSED UNTIL PART B WEDNESDAY MORNING

RECONVENE

Wednesday, June 25th
7:00 A.M. – 11:00 A.M. EDT
Sheraton Phoenix Downtown, Camelback A (Level 2)

P. Plans for FY 25-26 Society Year

- a) Thank the chair and members rolling-off RAC (Milesi-Ferretti & Bogart)
- b) Chair, Vice Chair and Subcommittee Chairs:
 - 1. Jin Wen RAC Chair
 - 2. Roland Charneux RAC Vice-chair
 - 3. Dennis Landsberg- RAS Chair
 - 4. Christopher Gray- RPS Chair
- c) Introduce new members of RAC
 - 1. Brian Fricke- RL Section 2 RPS
 - 2. Davide Ziviani- RL Section 4- RAS
- d) New RAC Member Training early August Web session prior to fall meeting?
- e) Review new assignments & positions for RAC members
- f) Fall Meeting 2025 Need to meet before TechC meets on

g) Review SY 25-26 RAC MBOs

Q. TENTATIVE RESEARCH PROJECTS - RAS Chair BOGART Lead

TRP Review Assignments & Potential Conflicts-of-Interest (Conflicts – RAC)
Staff noted four of the TRPs are ready for consideration today with recommended bidders from TCs.

It is moved and seconded that,

(9) <u>1873-TRP</u>, Upper-Air Ultraviolet Germicidal Irradiation (UVGI) for Tall Spaces, be awarded to the University of Cincinnati for a period of 18 months at a total cost to ASHRAE of \$250,031.

MOTION 9 PASSED: 11-0-0-1 (12) CNV

It is moved and seconded that,

(10) <u>1913-TRP</u>, Study of the Corrosion Impact on Information Technology Equipment in Data Centers Located in Coastal Regions with High Sea Salt Concentration, be awarded to the Syracuse University for a period of 24 months at a total cost to ASHRAE of \$254,972.

MOTION 10 PASSED: 11-0-0-1 (12) CNV

It is moved and seconded that,

(11) <u>1936-TRP</u>, Evaluation of relative impact of air change rate (ACR) and airflow patterns on the ventilation performance of indoor spaces, be awarded to Worcester Polytechnic Institute for a period of 36 months at a total cost to ASHRAE of \$399,755.

MOTION 11 PASSED: 11-0-0-1 (12) CNV

It is moved and seconded that.

(12) <u>1970-TRP</u>, Study of Grout for Ground Heat Exchangers, be awarded to Oklahoma State University for a period of 12 months at a total cost to ASHRAE of \$49,523.

MOTION 12 PASSED: 11-0-0-1 (12) CNV

NOTE: RAC did not receive a contractor recommendation for the following TRPs.

- 1825-TRP, Effects of Locally Provided Makeup Air on Commercial Kitchens, Responsible Committee: TC 5.10, (Kitchen Ventilation); Co-sponsored by: TC 5.03, Room Air Distribution & TC 2.03, (Gaseous Air Contaminants and Gas Contaminant Removal Equipment) Two bids were received but the PES has not met to make a recommendation. The TC can consider a letter ballot and RAC can consider at a later meeting.
- 1895-TRP, Effect of penetration through particle pre-filters on the performance of gas filters, Responsible Committee: TC 2.3 (Gaseous Air Contaminants and Gas Contaminant removal Equipment); Co-sponsored by: TC 2.04, (Particulate Air Contaminants and Particulate Contaminant Removal Equipment & GPC34) Five

bids were received but the PES has not met to make a recommendation. The TC can consider a letter ballot and RAC can consider approving at a later meeting.

- 1918-TRP, The Verification of openings, the limitations of openings, air distribution and humidity conditions in Naturally Ventilated spaces to compliment Section 6.4 of ASHRAE Standard 62.1, Responsible Committee: TC 4.05, (Fenestration), Cosponsored by: SSPC 62.1, (Ventilation and Acceptable Indoor Air Quality) Eight bids were received but the PES has not met to make a recommendation. The TC can consider a letter ballot for RAC consideration at a later meeting.
- 1925-TRP, Development of view clarity metrics for fenestration systems, Responsible Committee: TC 4.05, (Fenestration) Five bids were received but the TC has not submitted a recommendation. The TC can consider a letter ballot for RAC consideration at a later meeting.
- 1950-TRP, Effect of residential exhaust terminations on jet mechanics and resulting required intake separation, Responsible Committee: TC 4.03, (Ventilation Requirements & Infiltration) Co-sponsored by: SSPC62.1 – The TC wishes to revise work statement and rebid project.

R. RESEARCH LIAISON REPORTS

RL Reminders for Phoenix (Each RL send written update to staff after meeting)

RL's were asked to update research liaison TC reminder list based on happenings from Annual Meeting for staff to update. Please make aware if any projects or information is missing.

TCs were invited to use tool for RTARs and WS submission for August deadline. Aim is for all TCs to be using portal for RTAR/WS submission by December. More development is needed for use in bid submission and evaluation. RL's should let staff know if there are TCs in your Section that had RTAR/WS ready for submission and staff will invite them to use Research Portal tool.

<u>Action #9</u> <RLs> Ask TCs for RTAR/WS ready for submission and let staff know so they can be invited to use new Research Portal.

S. MORTS REPORT

The semi-annual MORTS report is posted to RAC Basecamp page

T. <u>UNFINISHED BUSINESS</u>

a) RAP

RAP met yesterday in Phoenix. Wilkin gave a presentation about RAP at the Research Subcommittee Chair's Breakfast to introduce the Research Strategic Plan (RSP) development effort to TC members. RAP will eventually seek input from TC members on the RSP, perhaps in person at a Research Chair's breakfast.

RAC should still pursue guidance document changes to make RAP a subcommittee of RAC. Some thought should be given to what RAP would do in between plan development. This could include measuring project contributions to RSP, promoting ASHRAE research, and streamlining research processes.

b) TC 9.9 research

Art Giesler addressed RAC on behalf of TC 9.9 who is working on research on mission critical datacom spaces. They aim to develop the research as soon as possible. RAC suggested the TC skip the RTAR stage and submit a WS by August 15th if they seek fastest path.

c) Co-funding procedures

Staff will collect feedback from RAC members and RP staff for a new proposed cofunding procedure. TCs will be asked to include any potential co-funding in RTAR stage with contact information. When RTAR is approved MORTS would send to RP staff to develop formal letters of intent to co-sponsor. Formal agreements will be worked out when project bidders are approved.

<u>Action #10</u> < MORTS>: send revised research procedures for research co-funding agreements for RAC consideration

d) RAC Procedural Documents

RAC discussed updates to be made to RAC MOP, Reference Manual and Research Manual:

- Change Research Manual (if necessary) to allow staff to give RL bid dollars to overlay in their meeting to eliminate a 2nd PES meeting.
- Changes to documents to reflect RAP as standing subcommittee under RAC
- Changes to documents to reflect updated co-funding agreement generation
- Reference Manual is SY21-22 should be updated for current SY
- Changes to documents to reflect CEC elimination of technical papers. RTAR/WS should list if STBE or conference paper for each project is appropriate. Research Agreement should change deliverables. Las Vegas meeting will be last ASHRAE Conference presenting technical papers.
- Add information on data deliverables, format, etc. for inclusion in Work Statement (add data section), Research Agreement when available
- Changes to procedures to widen GIA conference attendance to include any ASHRAE technical conference.

U. NEW BUSINESS

None

V. REVIEW OF NEW ACTION ITEMS

Action items from this meeting are summarized here:

ACTION ITEMS – 2025 Annual Meeting

No.	Responsibility	Action Item	Status
1	MORTS	Setup webinar as a training tool for the Research Portal.	
2	MORTS	Share Research Portal instructions and link with TCs identified that have new RTARs and work statements to submit for August 15 th deadline	
3	Charneux, Wen, Wang, Scott	Review the guidance document changes related to co- funding agreements (Attachment 2) and add a timeline requirement for approval and any other	Complete

		recommendations needed before RAC Part B meeting.	
	Wen, Gray	Develop deliverable for data from ASHRAE research projects in a format that can be made available and accessible to ASHRAE members	
5	MORTS	Work with Publications staff to identify a cognizant TC for the project.	
6	MORTS	Consider and draft procedures for a different category of research for Publication URPs as appropriate.	
7	MORTS	Review URP procedures to determine RAS/RPS responsibilities and consistency of rules.	
8	MORTS	Review GIA procedures to expand ASHRAE Annual Conference attendance to any ASHRAE technical conference.	
9	RLs	Ask TCs for RTAR/WS ready for submission and let staff know so they can be invited to use new Research Portal.	Complete
10	MORTS	send revised research procedures for research co-funding agreements for RAC consideration	

<u>ADJOURNED</u>
The meeting of the Research Administration Committee was adjourned at approximately 10:25 AM Wednesday, June 25th, 2025.

Research Administration Committee MBOs 2024-2025 Natascha Milesi-Ferretti, RAC Chair

MBO#	Description	Metric	Initiative #	Goal #	Completion % /Date	Financial Assist Req'd?	MBO Comments
		(how do we determine success?)					
1	Collaborate with ASHRAE web developer to develop effective online research project development and tracking system.	Success will be when the web- based system has been completed and fully implemented.	3	3b	75% as of 2/11/2025	yes	This system will streamline research project development and provide real time tracking of RTAR, WS, TRP, and RP status to appropriate groups. The online portal will replace file sharing via e-mail attachments between TC members, RAC, PES and PMS committees, and ASHRAE RAC staff and eliminate confusion from multiple file versions in circulation. Have solicited limited TC and RAC members for beta testing and debugging. Staff getting demo from vendor Oct 4 on RTAR, WS, TRP stages. Will recruit RAC members and then TCs to run testing. UPDATE: The Research Portal will be used by 1 TC per section that is ready to submit RTARs/WSs for August 15 th deadline. All TCs are expected to be able to use tool for December 15 th deadline. The Research Portal rollout was presented to TCs at the Research Chairs Breakfast in Phoenix. Further development is needed from vendor to use for bidding, bid evaluation and project monitoring.
2	Improve dissemination of research results through effective creation of research- based publications.	Implement PTAR process in coordination with Publications Committee	3, 4	1b, 2b, 3b	Complete 10/1/2024	no	Implementation processes have been developed but may require additional changes to improve coordination between RAC and Publications Committee. Recent changes in the management of standards user manual updates will reduce the need for their funding through RAC. Conditionally accepted first work statement for publication (WSP) at annual meeting. First ever TRP for publication to go out for bid. RAC selected a bid PTAR-0003, the first project developed under new PTAR procedures.
3	Review and update documents on Basecamp and Research website.	Consistent set of procedural and reference documents available on Basecamp and all ASHRAE websites.	3	3b	Complete 10/1/2024	no	RAC procedural and reference documents routinely undergo minor revisions to clarify or improve their effectiveness. It is important that all locations that contain these documents contain the same information. Update 6/25/2024 - ASHRAE staff (Donna) has expanded and updated support documents on the Research page of ashrae.org. A few additional updated training videos will be developed and added soon. 8/1/2024-Added PMS Training video. PES training to complement PMS training will be developed and made available in fall. No updates to reference documents since last meeting. Reference Manual changes related to Service to ASHRAE Research award were approved in ORL.
4	Expand TC involvement in identifying, communicating with, and obtaining interested bidders	Revisions to Research Manual and communications at research breakfast to notify research subcommittee chairs	3	3b	Complete 10/1/2024	no	Since the pandemic, multiple TRPs have gone out for bid, some for multiple times, with no bids being received. It is important that the technical experts have greater communications with potential bidders to ensure good responses to research proposals. The WS cover sheet should be modified to ensure all groups uniformly adopt and implement this policy. Staff used social media outlets to publicize research projects being bid in fall 2023, resulting in the largest number of bids ever being received (one TRP alone received 16 bids). TCs were encouraged to communicate with potential bidders in advance of listing them, but it was felt that no changes to WS requirements were needed. No changes to Research Manual required. RAC duplicated efforts used last time for October bids and again received excellent response. Efforts were quite successful.

5	Expand TC involvement in identifying, communicating with, and obtaining project co-funding support at the work statement review stage	Identify suitable levels of involvement for TCs to solicit and secure potential co-funding sources for ASHRAE research projects prior to TRPs being put out for bid. Revisions included in Research Manual.	3	1b, 2b, 3a, 3b	95% as of 2/11/2025	no	The current process for co-funding usually has MORTS contact the potential co-funder prior to finalizing the research contract. Since many of the technical experts collaborate in other ways with these potential co-funders, it may be more effective to have them more actively involved in soliciting co-funding support prior to TRPs going out for bid. TCs will solicit support letters without firm financial commitments from potential co-funding sources that will be included with their first draft WS. Changes to the RAC Research Manual have been drafted giving guidance on how such support letters should be obtained and documented. Changes need final reviews before incorporation. UPDATE: TCs have done great job of identifying potential cosponsorship. Staff working to update formal guidance and timeline for project cosponsorship. RAC is expected to finalize procedures on Wednesday meeting in Phoenix.
6	Provide updated guidelines for research project work statement budget estimating.	Updated budget estimating guidelines placed on the ASHRAE research website.	3	3b	Complete 2/11/2025	no	Current guidelines for budget estimating were last updated over 5 years ago. The recent spike in inflation as well as university tuition and wage rates require these guidelines be updated and made more applicable to various types of research activities. Update 6/25/2024 - Decided to keep current single budget number requirement for WS, but to develop and annually update cost data for various budget categories so TCs can provide better estimates for project costs. Cost information will be provided on the RAC Basecamp site and discussed at annual research breakfast meetings. No changes to Research Manual are required. UPDATE: 10/1/2024 Annual update to slides for reasonable budget estimates to be prepared for 1/1/2025. Slides of costing resources were presented at Research Subcommittee Training Breakfast
7	Identify the best mechanism to provide a data repository for RPs	Create the framework design or identify existing infrastructure.	4	1b,2b, 3b	new	no	There is a need for standardized requirements or guidelines for documenting/formatting. Potentially establish 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 RAC discussed questions surround data issue and 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. UPDATE: Some examples from other organizations are being developed. RAC to discuss at future meeting.
8	Establish new requirements for lay description of research projects and, best research findings from Research chairs.	Streamline reporting requirements for RPs	4,3		new	no	Action Item for RAC to request feedback at Research Breakfast on how ASHRAE can get information about completed research out to members and public in layman's terms. RAC members would review and draft changes to Research Agreement as appropriate to implement this requirement. UPDATE: RAC met with RP to discuss the best format for descriptions. RAC to consider implementing new deliverables into Research Agreement as appropriate.
9	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	3	3b	new	maybe	Request was for standing RAP subcommittee of RAC. UPDATE: Draft revisions to RAC guidance documents have been made. More RAC and RAP discussion is needed to define RAP's role and responsibilities outside of RSP development. This MBO is expected to continue to next Society Year.

RAC Research Manual:

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.
- Obtain TC vote and address all negative and abstention votes by providing the reasons for those votes and, if appropriate, a response to the concern(s) expressed in those votes.
- Provide realistic estimated project costs and duration. To do this, the RTAR must contain a
 description of the approach envisioned for the research. For instance, the RTAR should indicate if
 the project is primarily a paper study, or whether it involves computer simulations, laboratory
 testing, and/or field measurements. For simulations, laboratory, or field testing, describe the size
 of the anticipated test matrix (e.g., two different ventilation strategies will be tested in four
 buildings).
- Coordinate with other relevant TC and seek a letter of support from the interested TC Chairs.
- Actively solicit interest among possible co-funding organizations. If interest by other organizations in co-sponsoring the project is known, suspected, or even considered a possibility, the name, address, and phone number of the proper contact should be furnished on the Work Statement Cover Sheet as a "potential" sponsor. Once a written letter of support is obtained by a TC from a potential co-sponsor, the ASHRAE MORTS will finalize a co-sponsorship agreement with that organization or individual for the project list the organization and a contact person with contact information on the RTAR cover sheet. and seek a letter of support from an authorized representative. When an RTAR is approved ASHRAE's Manager of Research and Technical Services (MORTS) can assist with this will send list of potential co-funders to ASHRAE Manager of Development to develop letters of intent and co-funding agreements.
- Provide ALL required information.

4. WORK STATEMENTS

4.1 Work Statement Development and Approval Process

Table A. Factors for Prioritization of Work Statements for Funding

Status of TRP

Is this a project rebid?

Newly approved TRPs?

- Age of Project Based on date of work statement approval Co-Sponsorship
 - Multiple TC sponsors/Co-sponsors
 - Single TC Sponsor

Co-<u>F</u>funding – is there a firm co-funding commitment <u>has ASHRAE</u> <u>Development staff indicated there is likely co-funding (e.g., from AHRI)?</u> Cost of Project

- Should we fund more and smaller projects or fewer and larger ones?
- Does it require RAC Level Approval, Tech Council approval, Board approval?

Overall value of the project and the research, as well as contribution to ASHRAE's Research Plan(s), to ASHRAE and Society

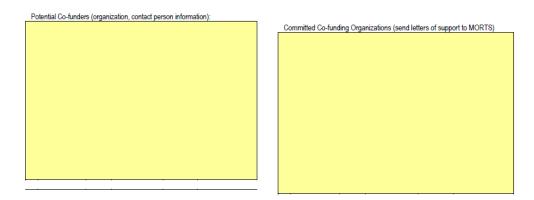
Note: the above factors are not listed in any particular order or level or importance

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
- <u>lists all Co-Funding organizations that have submitted a current letter of support to ASHRAE</u>

If interest by other organizations in co-sponsoring the project is known, suspected, or even considered a possibility, the name, address, and phone number of the proper contact should be furnished on the Work Statement Cover Sheet as a "potential" sponsor. Once a written letter of support is obtained by a TC from a potential co-sponsor, the ASHRAE MORTS will finalize a co-sponsorship agreement with that organization or individual for the project



4.5 Tips for Writing an Effective Work Statement

Cost

Is there a <u>formal commitment-letter of support from outside organizations</u> for co-funding? Did ASHRAE receive a letter (on company letterhead) with the amount of co-funding?

Suitability

Has the work statement been coordinated with other organizations' committees? <u>Is there a formal letter</u> of support from outside organizations for co-funding? Have they been asked for co-funding?

APPENDIX B MODEL RESEARCH CO-FUNDING MEMORANDUM-OF-UNDERSTANDING (MOU)AGREEMENT

<<u>Lead Research Organization</u>Co-Funding Organization and ASHRAE MEMORANDUM OF UNDERSTANDINGCO-FUNDING AGREEMENT

<u>for</u> <<u>Project IdentifierRP-XXXX Title</u>> <u>Support</u> <Date>

This <u>Memorandum of Understanding ("MOU")</u> serves as an Agreement ("Agreement") between the <Name and address of lead research organization/<u>Co-Funding Organization</u>> and <u>the American Society of Heating, Refrigerating, and Air Conditioning Engineers Inc. (</u>ASHRAE <u>at 180 Technology Parkway, Peachtree Corners, GA 30092_1791 Tullie Circle, NE, Atlanta, GA 30329)</u> in support of <u>ASHRAE <Lead Organization></u> research project <Project Identifier <u>RP-XXXX</u> and title>

1. FUNDING SUPPORT

For the effort to be awarded and contracted by <u>ASHRAE</u>, <u><Co-Funding Lead Research</u> Organization>, <u>ASHRAE</u> shall provide <u>co-funding</u> support in the amount of X thousand, X hundred and X dollars (\$XX,XXX) <u>total</u>. Payment will be made to <u><Lead Research</u> Organization>ASHRAE in two (2) equal payments of \$XX,XXX each:

- <u>< Co-Funding Organization></u> ASHRAE shall pay <u>< Lead Research Organization> ASHRAE</u>
 X thousand, X hundred and X dollars (\$XX,XXX) within 30 days of execution of this <u>MOU Agreement</u> and <u>ASHRAE</u> receipt of an <u>< Lead Research Organization> ASHRAE</u> invoice for payment,
- < Co-Funding Organization> ASHRAE shall pay < Lead Research Organization> ASHRAE the balance of X thousand, X hundred and X dollars (\$XX,XXX) within 30 days of < Co-Funding Organization> ASHRAE's receipt of the < Lead Research Organization> ASHRAE approved final report (see item 4 below) and an < Lead Research Organization> ASHRAE invoice for payment.

2. PROJECT MANAGEMENT

<u>ASHRAE</u> shall maintain management control and oversight of the project. It is understood and agreed <a href="https://example.com/however.com/how

3. SUSPENSIONS AND TERMINATIONS

4. REPORTS

<u>ASHRAE</u><<u>Lead Research Organization></u> shall retain the sole copyright to any and all reports resulting from the project.

After approval for release of the report(s) by Project Monitoring Subcommittee (PMS), and ASHRAE sponsoring Technical Committee (TC) XX.XX, ASHRAE <Lead Research shall extend to ASHRAE <Co-Sponsoring Organization> a nonexclusive right to publish, reproduce, duplicate and use such report(s) providing that the <Lead Research Organization>ASHRAE copyright notice is included on all copies of the report(s) distributed by <Co-Sponsoring Organization>ASHRAE. Also, <Co-Sponsoring Organization> ASHRAE may allow others to publish, reproduce, duplicate and use such report(s) providing that the <Lead Research Organization>ASHRAE copyright notice is included on all such copies of the report(s). ≤Co-Sponsoring Organization> ASHRAE agrees that when the report(s) is (are) used by ≤Co-Sponsoring Organization>ASHRAE, and reproduced for forwarding to others, that the reports shall be reproduced in full and will include all public notices, acknowledgments, and warnings. <Co-Sponsoring Organization> ASHRAE warrants that it shall distribute the report(s) to interested parties at a charge to recipients that does not exceed reasonable out-of-pocket costs for copying, handling, and postage. However, except as provided above, publication of these report(s) in technical journals or other publications, whether in whole or in part, is not authorized without the expressed prior consent of <Lead Research Organization ASHRAE>.

<u>ASHRAE</u> shall provide <u>ASHRAE</u> with one (1) single-sided, non-bound, pseudo-original of the report for said purposes upon request. Two copies of the electronic document shall also be delivered electronically or on CDROM that integrates all text, figures, tables, photographs, etc. into 1) a single-file Microsoft Word document and 2) into a single-file Adobe Acrobat PDF document.

ACKNOWLEDGMENT OF SUPPORT

In the acknowledgment section of the report, a line will be added to reflect that a portion of the project support monies were contributed by <u>ASHRAE Co-Sponsoring Organization This</u> project was supported, in part, by the <u>Co-Sponsoring Organization ASHRAE</u>.

6. DATA AND PATENT RIGHTS

Technical data developed under this program are considered the valuable property of <u>Lead Research Organization</u>>
<u>ASHRAE</u>. It is expected anticipated that <u>ASHRAE</u> <u>Lead Research Organization</u>>
will allow results arising from this effort to be incorporated into the pertinent sections of the ASHRAE Handbooks. <u>ASHRAE</u><u>Lead Research Organization</u>> reserves the right to control data release until approved for release by <a href="https://example.com/theatra-thea

7. ENTIRE AGREEMENT

This Agreement, and all other exhibits and attachments expressly incorporated into the Agreement, as the same may be amended or modified in writing, constitutes the entire Agreement between the parties and superseded all prior understandings, transactions, communications and writings with respect to the matters referred to therein.

The terms outlined in this Agreement may not be modified or terminated orally. No modification or termination, nor any claimed waiver of any of the provisions hereof, shall be binding unless in writing and signed by the party against whom such modification, termination or waiver is sought to be enforced. Such notification shall be directed to the signatories of this Agreement.

RAC Manual of Procedures

< <u>Lead Co-Sponsoring</u> Research Organization>	American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc.
By:(Signature)	By:(Signature)
(Name)	(Name)
(Title)	(Title)
(Date)	(Date)

- 1. GENERAL RESPONSIBILITIES
 - 1.2. TechC shall act on items as authorized by the Board of Directors ("BOD") or shall make

1.2.1.6. <u>Appointment of the Research Advisory Panel (RAP) and approval of the ASHRAE Research Strategic Plan (RSP)</u>

RAC MOP

SECTION A - RESEARCH ADMINISTRATION COMMITTEE (RAC)

Part 1 Responsibilities/Duties

A.1.2 The RAC shall be responsible for <u>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]</u>

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).

<u>SECTION F – RESEARCH ADVISORY PANEL</u>

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. 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.

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.

Part 2 Membership

F2.1 The membership qualifications and appointment procedures are specified in the Technology Council MOPMembers 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 <u>at least</u> two (2) times each year at the winter and Annual Society meetingsduring 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.
 - F3.1.4 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 <u>85</u>-year strategic research plan. Where appropriate, RAP shall also recommend modification to policies and procedures that make research into these areas more feasible.

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.

RAC Research Manual

1. RESEARCH STRATEGIC PLANNING AND OVERALL APPROVAL PROCESS

ASHRAE Research Strategic Plan

The ASHRAE Research Strategic Plan (RSP) is updated every eight 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 Plan RSP is approved by the Technology Council. The Society's Officers and Board members receive counsel on the strategic RSP plan from the members through the Region-Chapter organization and through the Council-Committee organization.

The Society's Research Strategic Plan (RSP)covers an five eight-year period. Between major updates, RAC RAP will review the plan-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 TCs, TGs, and WTGsASHRAE Committees. Based on this review, funding priorities may be changed to encourage underrepresented project topics. The current Research Strategic PlanRSP, 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 strategic planRSP 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 ASHRAE President-Technology Council Chair. Their mission is to develop the research strategic plan RSP for the Society by examining research frontiers and critical issues that may form barriers to progress and developing a strategic plan 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.





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2025 ASHRAE Annual Conference

LEADERSHIP PRESENTATION

ASHRAE Policies



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Code of Ethics

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

Harassment and Discrimination

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

Commercialism

ASHRAE's Commercialism Policy allows for Society activities that fulfill the mission of technological advancement with adherence to business plans that generate income to offset operational expenses such as AHR Exposition, ASHRAE periodicals, website, and Society conference events such as the Welcome Party, luncheons, registration kits, and receptions.

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.

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ASHRAE has a NEW TAGLINE! Shaping Tomorrow's Global Built Environment Today.



Download at Marketing Central

2025-28 ASHRAE Strategic Plan



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Position ASHRAE as the global leader in advanced solutions to improve indoor environmental quality (IEQ) and address climate change.

2

Pursue impact-focused engagement by targeting stakeholders to support a strong workforce and maximize utilization, adherence, and trust of ASHRAE's global expert resources. 3

Increase the accessibility of ASHRAE content, resources, and member opportunities.

OBJECTIVES

- Lead the development of widely adopted standards to support indoor environmental quality, decarbonization, and resilience.
- Develop alliances and diverse working groups that position ASHRAE to lead and collaborate globally in identifying challenges, defining solutions, and developing approaches to address them.
- Develop resources based on member needs and industry trends.

- Tailor and target engagement and resources to ASHRAE members and defined key stakeholders.
- Provide guidance to targeted stakeholders on impactful ways to maximize the positive downstream effect of their engagement on the built environment.
- Empower professionals in their journey to maximize industry impact in support of ASHRAE's mission and vision.
- d. Pursue partnerships to amplify the impact of ASHRAE's mission and support the HVAC&R and built environment workforce.

- Identify and address structural, content, and financial barriers to access.
- Align communication and delivery methods and formats to enhance accessibility and effectiveness of content, resources, and volunteer opportunities.
- c. Strengthen communication channels with and through chapters and regions to empower contribution to the Society as thought partners in adapting resources to local context and needs.

2025-28 ASHRAE Strategic Plan



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Healthy, Sustainable and Resilient Communities

Providing a healthy, productive and resilient indoor environment, while minimizing greenhouse gas emissions, is critical to today's built environment. Further, global stakeholders' leveraging of ASHRAE's standards and technical resources presents an opportunity for ASHRAE to solidify global leadership in supporting healthy, sustainable and resilient communities. ASHRAE prioritizes timely identification of industry trends, expedient content development, and forges key partnerships to advocate and collaborate with industry.



Empowered Workforce

The development of a skilled, competent, and solutions-oriented workforce is critical to addressing the challenges facing the built environment and the HVAC&R industry, today and in the future. ASHRAE continues to provide educational and professional development resources. Our members and industry partners need these tools to implement key initiatives such as decarbonization, resiliency, and indoor environmental quality goals and policies. ASHRAE, with the support of our chapters and regions, partners with key industry stakeholders in tackling the unique workforce challenges facing the industry globally.



Organizational Agility

ASHRAE's ability to serve communities, the industry, the current and future workforce, and provide value to its volunteer members, is dependent on forward-looking products, services, and solutions. ASHRAE will use emerging technologies to support the development of resources and knowledge flow between ASHRAE's chapters, regions, technical bodies, and the industry, harnessing organizational and operational efficiencies.



Emerging Technologies

In today's rapidly evolving landscape, emerging technologies are revolutionizing the built environment and HVAC&R industry, expanding numerous career opportunities. By combining technological advancements such as AI with human creativity, both seasoned professionals and new talent can collaborate to drive industry-wide progress. Advanced automation and AI-enabled systems propel energy efficiency and smart buildings, enhance comfort and IEQ, improve operations and maintenance, and deliver holistic and sustainable solutions for industry professionals. ASHRAE engages in a thoughtful process to evaluate and prioritize opportunities to leverage new technologies.

2025-28 ASHRAE Strategic Plan



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Download in English and Spanish at ashrae.org/strategicplan



ASHRAE Board of Directors



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President



Bill McQuade, P.E. CDP, Fellow ASHRAE, LEED AP Jessup, Maryland

President-Elect



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Charles Bertuch Manlius, New York

Region II



Genevieve Lussier Quebec, Canada

Region III



Sherry Abbott-Adkins, P.E., CPD, GPD, **LEED AP** Westminster, Maryland

Region IV



Heather Platt Gulledge, P.E., MBA Summerfield, North Carolina

Region V



Julia Timberman, P.E. Columbus, Ohio

Region VI



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

Region VII



Scott Peach, P.E.





Oklahoma City, Oklahoma

Region XIV

Region IX



Jonathan Smith, P.E. Kansas City, Missouri

Region X

Buzz Wright, P.E. Tucson, Arizona **Region-at-Large**

Region XI



Rob Craddock Saskatchewan, Canada

Region XII



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



Mobile, Alabama



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



Joseph Sanders



Mahroo Eftekhari, CEng., DPhil Loughborough, UK

Region XV



Pankaj Dharkar, Fellow ASHRAE Ahmedabad, India



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



ASHRAE Directors-at-Large



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Doug Cochrane, P.Eng., CDPMississauga, Ontario, Canada



Steve Kujak Brownsville, Minnesota



Patrick Marks, P.E. York, Pennsylvania



Corey Metzger, P.E. Papillion, Nebraska



Carrie Brown, Ph.D.Oakland, California



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



David Yashar, Ph.D., Fellow ASHRAEGaithersburg, Maryland



Daniel NallPrinceton, New Jersey



Heather Schopplein-Anderson, P.E. Santee, California



Government Affairs

ASHRAE

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GOVERNMENT OUTREACH



Get Involved!

Over 100 Government Outreach

Events during the 24-25 SY

GOVERNMENT AFFAIRS UPDATE



Sign up for the Government
Affairs Update
online or email
GovAffairs@ashrae.org

LETTERS & TESTIMONY



180 Technology Parkway, NW · Peachtree Corners, GA 30092-2977 · Tel: 404.636,8400 · Fax: 404.321.5478

Ginger Scoggins 2023-2024 ASHRAE Presiden Engineered Designs, Inc. 1151 SE Cary Pkwy., Ste. 200 Cary, NC 27518 Phone: (919) 851-8481

November 17, 2023

California Energy Commission Docket Unit, MS-4 Docket No. 22-BSTD-01 715 P Street Sacramento, California 95814

Sent via email to: docket@energy.ca.gov

RE: Docket 22-BSTD-01: 2025 Update to California Energy Code

Dear Chair Hochschild and Commission Members:

Thank you for the opportunity to comment on Docket 22-BSTD-01, California's proposed 2025 Building Energy Efficiency Standards.

ASHRAE is a technical and professional society with a mission to serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration and their allied fields. Our more than 51,000 members include over 3,000 members in California. Since 1894, ASHRAE has been involved in improving technology for the built environment, including through research, voluntary consensus-based standards development, training/education and certification.

Government Affairs



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Share your Expertise with Government Officials through the new **SMEs for GOEs** Program



Policymakers and elected officials need your expertise to make better decisions as they craft legislation and regulations impacting HVAC&R and the built environment.

The Government Affairs Committee (GAC) has developed a new program to identify Subject Matter Experts (SMEs) who can effectively communicate with non-technical audiences such as government officials

BE THE SOURCE of technical expertise for these decisions!

Sign up online or email GovAffairs@ashrae.org

RP and ASHRAE Foundation: Supporting ASHRAE's Mission



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Projected Amounts for Society Year ending June 30, 2025



\$2.7M Research Promotion Campaign (Research, YEA, ALI, Scholarships, General)



\$1.95M Raised for Endowments



\$218,500 Awarded through 40 Scholarships



\$1.9M Raised for Research



\$51,000 Raised by College of Fellows and Life Members Club



\$1.18M Given by ASHRAE Regions, Chapters and Sections

More than 5,000 contributions from Members, Organizations and other Associations

Center for Excellence in Building Decarbonization (CEBD)



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ASHRAE (1)

- Issued RFPs for two (2) CEBD projects in May
- Additional RFPs for CEBD projects to be issued in August
- Released two (2) more decarbonization guides
- New Decarbonizing Building Thermal Systems eLearning Course
- Suite of Decarbonization Guides:
 - Grid Interactive Buildings for Decarbonization Design
 - Decarbonizing Hospital Buildings
 - TM65 Addendum for North America with CIBSE
 - Building Decarbonization Retrofits for Commercial & Multifamily Buildings
 - Decarbonizing Building Thermal Systems: A Guide for Applying Heat Pumps & Beyond with NREL
 - ✓ NEW! Whole Life Carbon Guide for Building Systems
 - ✓ NEW! Guide to Strategic Decarbonization Planning with USGBC

Standards & Guidelines



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New Standards



ANSI/ASHRAE Standard 52.2-2025 (Supersedes ANSI/ASHRAE Standard 52:2-2017) Includes ANSI/ASHRAE addends listed in Appendix L.

Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size

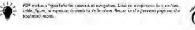
Each Committee Appendix . For approved cause by ASHRAE and the Annais an National Standards his trade

This Standard is under continuous maintenance by a Standard Standard Project Committee (SSEC) for which the Standards Consistential this with block a menument of recognitive to regular paths at mid-fallowers to review extreme procedure. For its off committed on the second magnification and interest of your control to the second results in the who sub-life control to the second on the Second Second

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2: 2020 AST BALL

ISSN 1341 2055







ANSI/ASHRAE/ASHE Standard 189.3-2025 (Superseces ANSI/ASHRAE/ASHE Standard | 89.3-2021): Indudes ANS /ASHRAC/ASHE addends listed in Appendix C

Design, Construction, and **Operation of Sustainable High-Performance Health Care Facilities**

Sea britametica. Auguratis D. Janutales of approva, by ASHRAE, the formatical Security for Health Care Eligibiating, and the Artic team National Scientifics institute.

The Standard Bunder continuous maintenance by a Standing Foundard Project Committee (SePE): for With the examinates Committee the substituted information is again for rigidal profiler and observe on records, or fulling procedure to display to an extend domain, and a success to display to an extend domain, and both is access to display to any part of the substitute for power super to a substitute of the substitute for power super to a substitute of the substitute for the substitute of the substitute of

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New Guideline



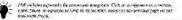
ASHRAE/ASHE Guideline 43-2025

Operations Guideline for Ventilation of Health Care Facilities

Approved by ARI IRAF on May 28, 2008, and by Tel American Society for Leek's Core Engineering on May 15, 2008.

The Codeline is under committee and interestinate by a Standing Standard Propert Committee (SGPO) for which the Standard Com filed has astarbited a decar retical array and terrogram particular of alcondary reviews, including a conducta to timely documented, consent techniques for request for reagy country of the Green's find consent techniques and the second of the ASHANE multiple years and the second of the ASHANE multiple years and to be second of the ASHANE multiple years and to go only on the ASHANE multiple years and to go only on the ASHANE multiple years and to go only on the ask of the second of the ASHANE multiple years and the second of the ASHANE multiple years and the second of the second of the ASHANE multiple years and the second of the ASHANE multiple years and the second of the second of the ASHANE multiple years and the second of the second o

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ASHRAE Bookstore



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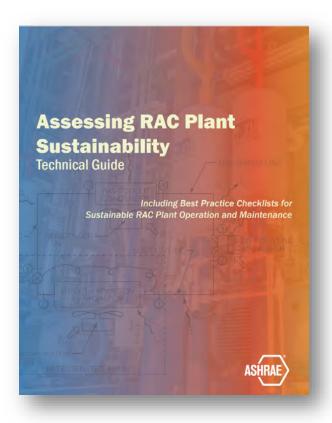
PROFESSIONAL DEVELOPMENT

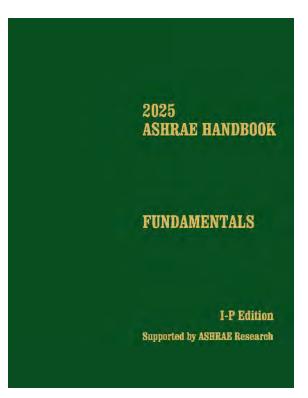
CONFERENCES

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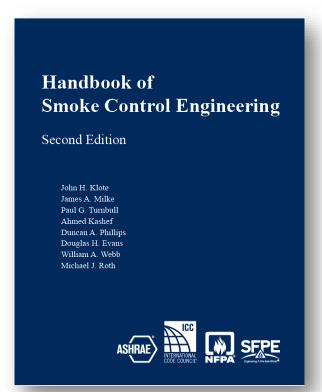
MEMBERSHIP

Get the Latest and Greatest Publications





Coming July 1!



Professional Development



ABOUT TECHNICAL RESOURCES

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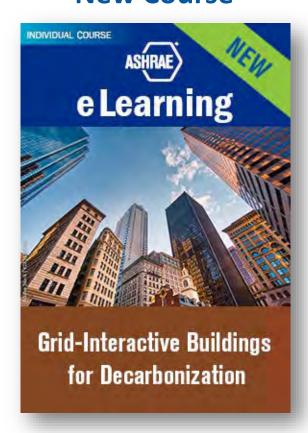
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eLearning

New Course



ASHRAE Learning Institute

Free Publication



Empowering professionals to advance their careers and the industry.

Certification

New Certification



Near Record Application Total SY 2025

Professional Development



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Farr and Setty Family Foundation Funds Scholarships for ALI, AGT,

and eLearning Registrants

ASHRAE Members in their **first 5 years** of membership get **35% off** one ALI, AGT, or eLearning course—thanks to support from the Farr and Setty Family Foundation Funds!

- ✓ One-time use per Society Year
- ✓ 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 for an application.



2025 Conferences

ASHRAE

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Denver, CO August 13-15, 2025

2025 ASHRAE Conference for Integrated Design, Construction & Operations

9

Montreal, Canada September 24-26, 2025

IEQ 2025 Conference
Co-Organized by ASHRAE and AIVC

9

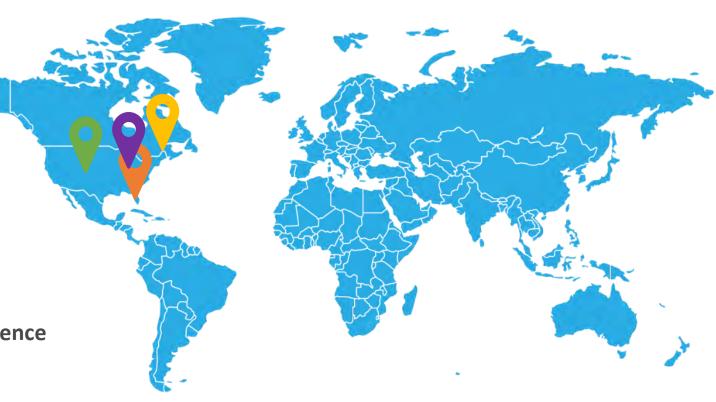
Chicago, IL October 22-24, 2025

2025 ASHRAE Building Decarbonization Conference



Clearwater Beach, FL December 8-11, 2025

2025 Buildings XVI Conference



2026 ASHRAE Winter Conference



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Join us in Las Vegas, NV Jan 31- Feb 4

Registration Opens in September

Committees and Student Scholarships



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Find Committees and Nominate Yourself or Others

FEB 2026

February: Nominations for appointed committees are due.

JUN 2025 **June:** Speak with your committee ExO/CO if your current appointment/elected position ends to be nominated for another.

SEP 2025 **September:** Nominations for elected positions are due. (Publications & Education Council, Tech Council, RAC, TAC, Standards, Handbook, Nominating)

Communities > Student Zone > Scholarships

44 Society Scholarships Available for 2025-2026 SY

Each year the ASHRAE Foundation awards scholarships of up to \$12,500 USD each to qualified students.



Spread the word to students and encourage them to apply.



Consider donating to help support the scholarship program.

New! Find the ASHRAE-USGBC IAQ for Schools Guide in the Student Zone Resources.

Membership



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Have you selected your Annual Membership Benefit?

Benefits are selected during the join & renewal process. If you haven't done so, login and select from benefit options available.



New, Full Dues Paying Members Automatically Get:



HONORS & AWARDS The following awards have a <u>DEC 1 deadline</u>:

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





Proposed Change to Membership Model

Young Professionals Member Category Associate and Affiliate Member Grades and 35 years or younger, first 2 years of membership Replaced with **Smart Start discount program** heavily discounted **Four Tiers of Member Dues Developing Economies discount program** Transitions to based on country of residence with same benefits across all tiers (aligned with World Bank) Tenured Professional Member Category Replaced with Retired Member category 65 years or older + 25 years of membership heavily discounted to mirror Young Professional Life Service Member Grade Transitions to Life Member Grade 65 years or older + 30 years of membership + qualification of service to Society

Benefits: All Members, even Students, receive access to Handbook Online. Members receive additional annual benefit option Member Qualifications: Broadened to be more inclusive of anyone interested in the Building Sciences industry





Current Model

Full Member Grade

Retired

Full Member Fellow Member Full Member DE

60% (\$170)

Member Member

15% (\$45)

Retired Member DE

> 50% of RM (\$25)

Life Member

30 yrs

cumulat

ive

member

+ ≥ 65

Presidential Member

Served as

Society

President

\$0

12 years combined experience for post high ed, work, pro engineering reg/license

*Good standing for 10+ yrs & elected by BOD

Full Benefits:

100%

(\$285)

Subscription to HPB, Journal, Insights + Choice of 1 annual benefit + Tech Portal + Member pricing on publications, standards, courses and conferences

Additional New
Member Benefits:
Receive a Comp
Winter or Annual
Conference to attend
in first 2 years +
HBO access for 1

Benefits: Same as

Full
except
subscripti
on to
digital

and
Choice of
1 annual
benefit:
HB PDF,
1 STD or

GDL or

eLearning

Benefits:

Retired from active

participation in

business + 10 yrs

membership + ≥ 55

Same as Full Member except NO choice of annual benefit. Benefits:

Same as Full Member + waived dues, extreme discounts to W&A Conferences. Invitations to VIP events (Presidential only)

Current Model continues onto next page

Associate Member Grade

Associate Member

100% (\$285) Associate Member DE

60% (\$170) Smart Start
Associate
Member

FY 10% (\$30) SY 37.5% (\$105) TY 50% (\$145) Smart Start
Associate
Member DE

FY 10% of DE (\$15) SY \$37.5% DE (\$65) TY 50% od DE (\$85)

\$0

Life

Member

Work experience and interest in design, operation, maintenance in HVAC&R

3 yr program that allows Students to transfer to Associate grade at a rate that is recent graduate friendly Associate
Member
30 yrs
cumulative
member +
≥ 65

Full Benefits:

Subscription to HPB, Journal, Insights + Choice of 1 annual benefit + Tech Portal + Member pricing on publications, standards, courses and conferences

*DE Associate and Smart Start have same benefits as Full Member DE

Additional New Member Benefits:

Receive a Comp Winter or Annual Conference to attend in first 2 years + HBO access for 1 year

Associate DE and Associate Smart Start DE not eligible

Benefits: Same as

Full
Member +
waived
dues,
extreme
discounts
to W&A
Conferenc
es +
Invitations
to VIP
events





Current Model - Continued

Affiliate Member Grade

Affiliate Member

FY 25% (\$70) SY 37.5% (\$105) TY 50% (\$145)

Affiliate Member DE

FY \$25% of DE (\$45) SY \$37.5% DE (\$65) TY 50% of DE (\$85)

30 years old
OR have been honorably
discharged from the Military
within 5 yrs

Subscription to HPB, Journal & Insights + Tech Portal + Member pricing for publications, courses, standards and conferences

Cannot hold office or vote

Student Member Grade

Student

Student

Branch

Advisor

10%

(\$30)

Faculty

member who

is ASHRAE

member &

must submit

application

and submit

annual

report

Student Member

10%

(\$30)

Member DE 50% of

Student Member (\$15)

Studying or have interest in HVAC&R industry related field + Must be currently enrolled in university, college, junior college or technical institute

Subscription to HPB, Journal & Insights + Tech Portal + Student Member pricing for publications, courses, standards and conferences + Access to Student Bookstore for heavily discounted publications and printed HB

Cannot hold office or vote

Other

Honorary Member

\$0

Any notable person of preeminent professional distinction & elected by the BOD

Full Member Benefits if requested







Member Grade

Anyone

≤ 35 yo

who joins

pays this

fee first for

2 years

Student Member Grade

Other

Member

WB

Tier 3

60%

(\$170)

WB

Young **Professional**

Tenured **Professional**

Life Service Member

Presidential Member

Student Member

7.5%

(\$20)

Student Branch Advisor

20%

(\$60)

Honorary Member

WB Tier 1 100% (\$285)

<u>WB</u> Tier 2 80% (\$230)

Tier 4 40% (\$115)

40% (\$115)

Anyone

≥ 65 yo

with

25 years

cumulative

member-

ship

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

\$0

Any notable person

of preeminent

professional

distinction &

elected by the

BOD

Anyone interested in the building sciences industry

HBO + Journal, HPB, Insights + Tech **Portal + Member Pricing + Voting** Privileges and Serve as C,R,S level roles Choice of 1:

eLearning Course, Certification Study Guide, Standard or Guideline

HBO + Journal, HPB, Insights + Tech Portal + Member Pricing

Same as Member + waived dues, extreme discounts to W&A Invitations to VIP events

\$0

Same as Young and **Tenured Professionals** **Full Member** Benefits if requested

Additional New Member Benefits:

Receive a Comp Winter or Annual Conference to attend in first 2 years + HBO access for 1 year





ASHRAE Simplified Model Highlighted Changes

Replaced with Associate and Affiliate Member Grades and Young Professionals Member Category **Smart Start discount program** Four Tiers of Member Dues Transitions to **Developing Economies discount program** (aligned with World Bank) **Tenured Professional Member Category Retired Member category** Replaced with Life Service Member Grade Life Member Grade Transitions to 20% of Full Dues Increases to Student Branch Advisor dues rate Conferences, the same benefits and access to Handbook Online

Benefits: All Members, even Students, receive access to Handbook Online. Full Members receive additional annual benefit option. **Member Qualifications:** Broadened to be more inclusive of anyone interested in the Building Sciences industry



Reasons for the Changes

Simplification

MP &

SAC

MP

Support Diversity, Equity and Inclusion

Tiered Member Dues match

all four Tiers of World Bank

Young Professionals mirrors Tenured Professionals

Lift Member qualifications and restrictions

Motion from Region-at-Large CRC Lebanese Chapter

Motion from Region VIII CRC Monterrey
Chapter

Added Benefit for ALL
Members including Students:
HBO

Access to HBO serves as retention tool

Motion from Region VIII Central OK Chapter

Motion from Region XI CRC Southern
Alberta Chapter

When 12-month subscription to HBO ends, member will renew to gain access instantly

Access for students to HBO gives incentive for joining as a Young Professional to keep access

Same benefits and same dues rate

All members (except Students) can vote

All members (except Students) can hold C,R,S roles

Anyone interested in building sciences can join ASHRAE

Slowing the continued growth of Non dues paying Life Members

Rewards those who have served Society through different channels with waived

Allows members who have 30 years of membership and age 65 or older with significantly discounted dues rate to maintain HBO, Journal and Member Pricing



Recommended Timeline

- February 2025: MMAH brought motion to the Board of Directors to approve plan.
 - Motion tabled to allow for 60-day "cooling off period."
- May BOD Meeting: BOD approved the final plan and bylaws amendment.
- 2026 Winter Conference: Bylaws amendment read at the Meeting of the Members (Saturday Plenary Session) in Las Vegas.
- Spring 2026: Proposed Bylaws amendment added to Spring Ballot for membership vote
- June 2026: Election
- 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. (Staff and Members Council will need 1 year to implement new model changes)
- July 1, 2027: New model implemented.





Media Inquiries





Asked to make a statement on behalf of ASHRAE?

Please send all media inquiries to publicrelations@ashrae.org

before responding to members of the press.



Thank you! Questions or Comments?

ashrae.org