THE RESEARCH & TECHNICAL ACTIVITIES REPORT

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FOR TC/TG/MTG/SSPC CHAIRS, VICE CHAIRS & RESEARCH SUBCOMMITTEE CHAIRS JULY 21, 2025

2025 ANNUAL MEETING

The Annual meetings of the Research Administration Committee (RAC), Technical Activities Committee (TAC), Technology Council, and the Board of Directors were recently completed with the results below. This report also includes information for RAC's and TAC's upcoming Fall & Winter meetings.

NEW PROJECTS AWARDED

The following four projects were approved for award in Phoenix as follows:

- **1873-TRP**, "Upper-Air Ultraviolet Germicidal Irradiation (UVGI) for Tall Spaces,"; Responsible Committee: TC **2.9** (Ultraviolet Air and Surface Treatment), Co-Sponsors: TC **9.6** (Healthcare Facilities) Co-funding: None; Estimated Duration: 18 months; Cost to ASHRAE: \$250,031. Contractor: University of Cincinnati
- 1913-TRP, "Study of the Corrosion Impact on Information Technology Equipment in Data Centers Located in Coastal Regions with High Sea Salt Concentration"; Responsible Committee: TC 9.09, (Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment); Co-Sponsors: TC 2.03 (Gaseous Air Contaminants and Gas Contaminant Removal Equipment), TC 2.4 (Particulate Air Contaminates and Particulate Contaminant Removal Equipment) Co-funding: None; Estimated Duration: 24 Months; Cost to ASHRAE: \$254,972 Contractor: Syracuse University.
- <u>1936-TRP</u>, "Evaluation of relative impact of air change rate (ACR) and airflow patterns on the ventilation performance of indoor spaces"; <u>Responsible Committee</u>: <u>MTG.ACR</u> (Air Change Rate); <u>Co-funding</u>; Price (\$60k), Phoenix Controls (\$25k); <u>Estimated Duration</u>: 36 Months; <u>Cost to ASHRAE</u>: \$399,755 <u>Contractor</u>: Worcester Polytechnic Institute.
- <u>1970-TRP</u>, "Study of Grout for Ground Heat Exchangers" Responsible Committee: TC 6.08 (Geothermal Heat Pump and Energy Recovery Applications); <u>Co-funding</u>: None; <u>Estimated Duration</u>: 12 Months; <u>Cost to ASHRAE</u>: \$48,523 Contractor: Oklahoma State University.

PROJECTS PENDING AWARD

Proposals for the following tentative research projects (TRP) were received prior to the Phoenix meeting, but a funding decision could not be made at this meeting for the following reasons:

- <u>1825-TRP</u>, 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.
- <u>1895-TRP</u>, 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), Co-sponsored 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.

- <u>1925-TRP</u>, 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.
- <u>1950-TRP</u>, 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.

POTENTIAL PROJECTS FOR BID IN FALL 2025

A portion of the following eleven tentative research projects (TRPs) are expected to be released for bid this fall pending completion of all pre-bid conditions by the responsible committee, and acceptance of these conditions by their section Research Liaison prior to September 15, 2025.

- 0001 WSP, "Update of ASHRAE Publication: Application of Manufacturers' Sound Date @1998"; Responsible Committee: TC 2.06 (Sound and Vibration); Co-Sponsors: None. Co-funding: None; Recommended Contractor: TBD; Estimated Duration: 18 months; Cost to ASHRAE: \$150k Status: Clear RAC Approval conditions with RL so project can bid.
- 1811-TRP, "Determining Occupancy Patterns in Clusters of Buildings with Data Drawn from Web Based Social Media and Mobile Positions"; Responsible Committee: TC 1.05 (Emerging Computing Applications); Co-Sponsors: TC 7.10, Occupant Behavior in Building Design and Operation; Co-funding: None; Recommended Contractor: TBD; Estimated Duration: 24 months; Cost to ASHRAE: \$220k Status: Clear RAC Approval conditions with RL so project can bid.
- 1882-TRP, "Procedure for Estimating Occupied Space Sound Levels in the Application of UFAD Air Terminals and Air Outlets" Responsible Committee: TC 2.06, Sound and Vibration, Co-Sponsors: TC 5.03, Room Air Distribution; Co-funding: None; Recommended Contractor: TBD; Estimated Duration: 18 months; Cost to ASHRAE: \$190k Status: Clear RAC Approval conditions with RL so project can bid.
- 1886-TRP-C, "Kinetic and Mechanistic Study of the Breakdown and Interactions of HFO Refrigerants"

 Responsible Committee: TC 3.02, Refrigerant System Chemistry and Contaminant Control

 Co-funding: None; Recommended Contractor: TBD; Estimated Duration: 12 months; Cost to ASHRAE: \$120k

 Status: Accepted for bid in Fall 2025.
- 1941-TRP-C, "Experimental Program to Update the ASHRAE Duct Fitting Database (DFDB". Responsible Committee: TC 5.02, Duct Design, Co-funding: None; Recommended Contractor: TBD; Estimated Duration: 24 months; Cost to ASHRAE: \$180k Status: Clear RAC Approval conditions with RL so project can bid.
- 1959-TRP, "Update People Load Data for Cooling Load Calculations"; Responsible Committee: TC 4.01 Load Calculation Data and Procedures, Co-Sponsors: None; Co-funding: None; Recommended Contractor: TBD; Estimated Duration: 15 months; Cost to ASHRAE: \$150k Status: Accepted for bid in Fall 2025.
- 1972-TRP, "Data Center Direct to Chip Liquid Cooling Resiliency Failure Modes and IT Throttling Impacts; Liquid Cooling Energy Use Metrics and Modeling"; Responsible Committee: TC 9.09, Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment; Co-Sponsors: None; Co-funding: None; Recommended Contractor: TBD; Estimated Duration: 36 months; Cost to ASHRAE: \$350K Status: Accepted for bid in Fall 2025.

WORK STATEMENTS REVIEWED AND APPROVED OR RETURNED WITH COMMENTS

A total of two work statements were submitted by the TCs for review at the RAC annual meeting. One was conditionally accepted, and one was returned with comments. See below for the status of each project after this review.

Conditionally Approved Work Statements:

1960-WS, Operating cost, energy, and carbon saving benefits of pre-cooling in district energy systems

Work Statements Returned with Comments:

1953-WS, Evaluation of ground source heat pumps integrated with diurnal thermal energy storage for residential and commercial buildings

WORK STATEMENTS PREVIOUSLY RETURNED TO TCs

TC/TGs should work with their Research Liaison to respond to written comments on the work statement provided by RAC via letter and revise the work statement appropriately. Please note that topics will be dropped from this plan if the work statement is not approved for bid after four years on the Research Implementation plan.

REVIEW OF RESEARCH TOPIC ACCEPTANCE REQUESTS (RTARs)

RAC reviewed **one** RTAR at the Annual 2025 meeting:

Conditionally Approved RTARs:

1990-RTAR

The current RTAR form can be found on the "Research" page of the ASHRAE website at www.ashrae.org/research.

The next submission date for RTARs and WSs is August 15, 2025to be considered at RAC's Fall meeting or on or before December 15, 2025 to be considered at RAC's Winter meeting. The standing RAC submission dates for new and revised RTARs and WSs are as follows each year:

March 15 – RAC Spring meeting consideration in April

May 15 – RAC Annual meeting consideration in June

<u>August 15 – RAC Fall meeting consideration in Sept. or Oct.</u>

December 15 – RAC Winter meeting consideration in January/February

UNSOLICITED RESEARCH PROJECTS

Two unsolicited research proposals (URP) were submitted for review at the RAC annual meeting. One was accepted for TC review and one was rejected.

SOCIETY RESEARCH IMPLEMENTATION PLAN

The Society Research Implementation Plan is now being updated following the annual meeting of RAC. New RTARs will be added, and tentative research project RFPs will be added or dropped depending upon their bid status. This change to the way the implementation plan is updated necessitated that time limits be placed on how long a topic can remain on the plan without being approved for bid. The annual meeting updates to the plan should be in place by **October 1, 2025** or sooner and placed on www.ashrae.org/research.

DEADLINES

The following deadlines apply for the next several months. Please recognize that they are not arbitrarily set but are set to meet subsequent events. So, if you miss them, your input may be delayed for six months or in some cases, for a year. All research submissions should be sent to the Manager of Research and Technical Services (MORTS), Steve Hammerling, (morts@ashrae.net).

August 1, 2025	Debate, Panel, Seminar, Forum, Workshop, and Debate Proposals due for Las Vegas meeting.
August 15, 2025	New or revised Work Statements and RTARs with TC vote are due to MORTS for RAC consideration at the 2025 RAC Fall meeting.
Late Summer, 2025	Las Vegas meeting room request portal opens at www.ashrae.org/conferences/2026-winter-conference-committee-meetings.
September 1, 2025	Nominations for the 2025-2026 Service to ASHRAE Research Award for TC volunteer

September 3, 2025	Las Vegas meeting Conference Papers Due
September 24, 2025	Conference Paper Accept/Revise/Reject Notifications for 2026 Winter meeting in Las Vegas, NV sent by CEC
October 3, 2025	Las Vegas meeting Debate, Panel, Seminar, Forum, Workshop Scheduling notifications sent by CEC
October 8, 2025	Revised Las Vegas meeting Conference Papers Due.
October 15, 2025	Fall 2025 tentative research projects (TRPs) are released for bid.
October 27, 2025	Las Vegas meeting Conference Paper Final Accept/Reject notifications sent by CEC.
Late October, 2025	Las Vegas meeting room requests due. Meeting portal link at www.ashrae.org/conferences/2026-winter-conference/2026-winter-conference-committee-meetings.
November 1, 2025	Nominations for the 2026 Donald Bahnfleth Environmental Health Award for excellence in volunteer service focused on environmental health issues.
December 1, 2025	Applications for the ASHRAE New Investigator Award are due to MORTS.
December 1, 2025	Nominations for the 2025-2026 George B. Hightower Technical Achievement Award for TC volunteer efforts over the past four years in areas except research and standards are due to TAC section heads.
December 1, 2025	Nominations for the ASHRAE Homer Addams Award, which is given to graduate students assisting in current or recently completed ASHRAE sponsored research projects, are due to MORTS.
December 14, 2025	All PowerPoint presentations for the Las Vegas meeting must be uploaded to ASHRAE website by this date for review.
December 15, 2025	Bids are due for all TRPs released in Fall 2025.
December 15, 2025	New or revised Work Statements and RTARs are due to MORTS for RAC consideration at the 2025 Winter Meeting.
January 31, 2026	ASHRAE 2026 Winter Meeting begins in Las Vegas, NV
February 3, 2026	Roster update workbooks for 2026-2027 TC/TG/TRG rosters are due to section head
February 3, 2026	Contractor recommendations are due to MORTS for all TRPs bid in spring 2026. E-mail to ddaniel@ashrae.org .
March 1, 2026	Deadline for ASHRAE Graduate Student Grant-In-Aid Award

A. ANNOUNCEMENTS

1. 2024-2025 Homer Addams Award

The Homer Addams Award is intended for a graduate student that worked on an ASHRAE research project in the past 2 years and lead authored a technical paper on the project results. This year's award recipient is Dr. Cary Faulkner of the University of Colorado - Boulder for their work on RP-1661, *Development of Near-Optimal Control Sequence for Chiller Plants with Water Side Economizer Using Dynamic Models*. The award includes a

\$5,000 honorarium payment and the submission deadline for nominations each year is December 15th. For more information on this award, please go to the research page of the ASHRAE Website at www.ashrae/research.

2. 2025 Service to ASHRAE Research Award Recipient – Paul Turnbull

Paul Turnbull was presented to the Service to ASHRAE Research Award at the 2025 Winter Meeting in Orlando. He was nominated by TC 5.6.

RAC approved changes to the award criteria to allow multiple awards per year if candidates get 20 points. Information is available at www.ashrae.org/technical-resources/research/research-grants-awards. The deadline for nominations is September 1st.

3. 2024-2025 George Hightower Award Recipient – Phil Naughton for work on TC 9.11

The award recognizes contributions to the activities of ASHRAE Technical Committee including contributions to the handbook and program during the past four years. Naughton was invited to receive this award at the Plenary Awards session in Phoenix.

4. 2024-2025 New Investigator Award Recipient – Yunyang Ye

Dr. Yunyang Ye with the University of Alabama won the award. The ASHRAE New Investigator Award (NIA) assists new university faculty members to develop research capabilities in HVAC&R related fields. The award includes a \$125,000 award payment and the submission deadline for nominations each year is December 1st. For more information on this award, please go to the research page of the ASHRAE Website at www.ashrae.org/technical-resources/research/new-investigator-award.

5. Scope Change Approved for TC 9.7

TAC approved the following title change for TC 9.7:

TC 9.7 is concerned with the application of ventilating, air-conditioning, refrigeration, life safety, and energy conservation systems to educational (secondary school, college) facilities. for educational facilities, including early childhood education through higher education facilities.

6. CEC's Standing Request for Future Society Meeting Program Track Suggestions

The Conferences and Expositions Committee (CEC) oversees ASHRAE's annual and winter conferences and other specialty conferences and expositions globally. The CEC continually works to improve the conference experience for all attendees. To help keep a "pulse" on the technical issues facing professionals in the HVAC&R marketplace, and to create meetings that reach all of ASHRAE's constituencies, the CEC seeks ideas for tracks for the 2025 and 2026 meeting conferences as well as topics for specialty conferences from TC members. Please submit your suggestions to ASHRAE Staff member Tony Giometti (Giometti@ashrae.org). You can also add your track suggestion in the "Comment" section of the TC Activity form for the Orlando meetings.

7. ASHRAE Position Document Updates

A new Position Document was approved:

• Human Health and Wellness in the Built Environment

Two Position Documents were reaffirmed:

- Infectious Aerosols
- Refrigerants and their Responsible Use

B. REMINDERS & REQUESTS

1. Rosters Access & Distribution

By now, each TC, TG and MTG chair should have access to their new 2025-2026 roster from their In addition, each member can view all the rosters of their committees on the ASHRAE Website. Log-in to the ASHRAE website at http://www.ashrae.org/myactivecommittees, (if you have not logged in lately, you might need to set up a new username and password). Click on the "blue" "roster" text on the right side of the committee page to reveal the roster in various file formats. Make sure everyone on your committee also knows how to access the roster online

2. Option for TC Subcommittee Meetings via Conference Calls and Web Meetings

More and more TCs are taking advantage of a new Society service that allows TCs to hold subcommittee meetings by phone and/or web prior to a Society meeting. Many TCs are finding this to be a more efficient way for them to conduct subcommittee business and it also allows TC members that can't travel to meetings on a regular basis a way to still contribute to the TC. Such a change can also eliminate potential conflicts with the TC's program sessions at Society meetings. Please consider requesting virtual meetings when scheduling your Winter and Annual TC meetings. Also, if you wish to conduct TC business in between ASHRAE Meetings, please reach out to Manager of Research & Technical Services, Steve Hammerling, at shammerling@ashrae.org to set up interim meetings.

3. The Professional Development Committee (PDC) is seeking ideas for new ASHRAE Learning Institute (ALI) courses.

The on-going need is for practical courses of broad interest to be presented as face-to-face seminars or short courses, instructor-led online courses, and self-paced courses. Examples would include courses with a focus on new technologies that need to be shared, fundamentals that may have been forgotten, standard applications that need explanation, and courses based on new design guides.

The objective of the ASHRAE Learning Institute (ALI) is to provide quality, authoritative and practical technical information of broad interest.

Contact Karen Murray (ASHRAE staff) at kmurray@ashrae.org with new course ideas.

4. TAC Presentation template Available for TC members to use with local Chapter

The presentation template allows TC members, without a lot of effort, to give a presentation to their local chapter on TAC and the TCs in general and to also customize a few slides with information specific to their own TC or TCs. The template is posted now on the Technical Committee page of the ASHRAE website for download - www.ashrae.org/tcs

5. ASKTAC

An email has been set up for members to ask TAC any TAC/TC related questions, comments, etc. Any questions or comments, please email - asktac@ashrae.net.

6. Make a Special Effort to welcome new Members and Visitors to TC meeting

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

7. New TC websites administration

Chairs and webmasters were recently sent instructions on how to access and edit TC website information. The changes are intended to make things easier to edit and administer content. Please email staff (tthomas@ashrae.org) if you have questions.

C. UPCOMING WORKSHOPS, CONFERENCES AND EVENTS

2025

- ASHRAE Annual Meeting June 21-25, 2025 Phoenix, AZ www.ashrae.org/conferences/2025annual-conference-phoenix
- ACEEE Summer Study on Energy Efficiency in Industry July 16-18, 2025 Charlotte, NC https://tinyurl.com/SummerStudy25
- 10th International Conference on Compressor and Refrigeration (ICCR) July 9-11 Xian, China https://iaqvec2026.org/

- European Refrigeration Summit 2025 July 11 12, 2025, Iasi, Romania. <u>www.aiiro-filialamoldova.ro/conference</u>
- <u>11th International Conference of Fluid Flow, Heat and Mass Transfer (FFHMT 2025)</u> July 15 17 London, UK. <u>https://ffhmt.com</u>
- <u>ISHRAE Cool Conclave 2025</u> July 31, August 1 2, 2025 Indore, India. https://ishraecoolconclave.com/
- ASES Solar 2025 August 4 6, 2025 Boulder, CO. <u>www.ases.org/conference</u>
- Asia-Pacific Cleanroom Technology & Equipment Exhibition August 8 10, 2025 Guangzhou, China. www.clcte.com
- IVIS 2025 Sep 10-11 Knoxville, Tennessee. https://ivis2025.ornl.gov/
- AHR Expo Mexico September 23 to 25, 2025 Monterrey, Mexico. www.ahrexpomexico.com/
- NAFA Annual Convention October 21 23, 2025 Newport, RI. www.nafahq.org
- RETA Conference October 21 24, 2025 Spokane, WA. www.reta.com
- 2025 AABC Annual Meeting October 22 24, 2025 Amelia Island, FL. www.aabc.com
- SMACNA Annual Conference October 26 29, 2025 Maui, HI. https://tinyurl.com/SMACNA25
- <u>Greenbuild</u> (Official Greenbuild International Conference and Expo) November 4-7 Los Angeles, CA. https://informaconnect.com/greenbuild/
- <u>Climatización y Refrigeración</u> November 18 21 Madrid, Spain. <u>www.ifema.es/en/cr</u>
- elementalLondon November 19-20 London, UK. https://elementallondon.show/
- <u>ISHVAC 2025</u> (The 14th International Symposium on Heating, Ventilating, and Air Conditioning) November 29, 2025 December 2, 2025 Tokyo, Japan. https://ishvac2025.com/

2026

- ASHRAE Winter Meeting Jan. 31-Feb. 4, 2026 Las Vegas, NV
- <u>CIBSE Technical Symposium 2026</u> April 23-24, 2026 Loughborough University Leicestershire, UK. <u>www.cibse.org/whats-on/cibse-technical-symposium</u>
- 12th International Conference on Indoor Air Quality, Ventilation, and Energy Conservation in Buildings (IAQVEC 2026) May 18 to 22, 2026 | Los Angeles, California . https://iaqvec2026.org/
- ASHRAE Annual Meeting June 27-July 1, 2026 Austin, TX
- <u>AHR Expo Mexico</u> September 29 to October 1, 2026 Guadalajara, Mexico.www.ahrexpomexico.com/

D. UPCOMING TC AWARD NOMINATION SUBMISSION DEADLINES

2025-2026 Hightower Award Nomination Process and Deadline

The Research and Technical Activities Report – Annual Meeting – 2025

Nominations for the 2025-2026 George B. Hightower Technical Achievement Award are due to your Section Head by December 1, 2025. The award recognizes outstanding technical leadership and contributions on a TC/TG/TRG <u>during the past four years</u>, excluding research and standards activities. Please go to the Technical Committee page of the ASHRAE website at the following link under the "Procedures and Forms…" heading: www.ashrae.org/tcs

2025-2026 Service to ASHRAE Research Award Nomination Process and Deadline

Nominations for the 2025-2026 Service to ASHRAE Research Award are due to your Section Head by <u>September 1</u>, <u>2025</u>. RAC approved changes to the award criteria to allow multiple awards per year if candidates get 20 points. Information is available at www.ashrae.org/technical-resources/research/research-grants-awards.

Please let me know if I can be of any other assistance.

Sincerely, Steve Hammerling