



Shaping Tomorrow's
Built Environment Today

MINUTES

RESEARCH ADMINISTRATION COMMITTEE VIRTUAL MEETING

SEPTEMBER 30TH & OCTOBER 2ND, 2024

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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SEPTEMBER 30th & OCTOBER 2nd, 2024

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**PRINCIPAL MOTIONS
RESEARCH ADMINISTRATION COMMITTEE
SEPTEMBER 30th & OCTOBER 2nd, 2024**

NO.	PAGE	MOTION
1	1	the draft minutes of the RAC 2024 spring meeting be approved as drafted.
2	3	Paul Turnbull of TC 5.6, be awarded the 2024-2025 Service to ASHRAE Research Award.
3	3	1975-RTAR, Expanding ASHRAE Metabolic Rates Database for a Complete Lifespan (6-70y), sponsored by TC 2.01 (Physiology & Human Environment), be <u>accepted with comments</u> .
4	3	1976-RTAR, Ozone Removal Efficiency and Generation of Byproducts on VOC-Loaded Gas-Phase Air Cleaning Devices, sponsored by TC 2.03 (Gaseous Air Contaminants and Gas Contaminant Removal Equipment), be <u>accepted with comments</u> .
5	3	1811-WS, <i>Determining Occupancy Patterns in Clusters of Buildings with Data Drawn from Web Based Social Media and Mobile Positions</i> , sponsored by TC 1.05 (Emerging Computing Applications) & TC 7.10 (Occupant Behavior in Building Design and Operation), be <u>returned</u> .
6	4	1825-WS, <i>Effects of Locally Provided Makeup Air</i> , sponsored by TC 5.10 (Kitchen Ventilation), TC 5.03 (Room Air Distribution) & TC 2.01 (Physiology and Human Environment) be <u>conditionally accepted</u> .
7	4	1851-WS, <i>Dielectric Properties of Lower GWP Refrigerants</i> , sponsored by TC 3.01 (Refrigerants and secondary Coolants), be <u>returned</u> .
8	4	1936-WS, Evaluation of relative impact of air change rate (<i>ACR</i>) and <i>airflow patterns on the ventilation performance of indoor spaces</i> , sponsored by <i>MTG.ACR (Air Change Rate)</i> , be <u>conditionally accepted</u> .
9	4	1941-WS, Experimental Program to Update the ASHRAE <i>Duct Fitting Database (DFDB)</i> . TC 5.02 (Duct Design), be <u>returned</u> .
10	4	1970-WS, <i>Study of Grout for Ground Heat Exchangers</i> , sponsored by TC 6.08 (Geothermal Heat Pump and Energy Recovery Applications), be <u>conditionally accepted</u> .
11	4	1972-WS, <i>Data Center Direct-to-Chip Liquid Cooling Resiliency – Failure Modes and IT Throttling Impacts, Liquid Cooling Energy Use Metrics and Modeling</i> , sponsored by TC 9.09 (Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment), be <u>returned</u> .

**New Action Items
Research Administration Committee (RAC)
Fall Meeting 2024**

Action #	Responsibility	Summary of Action	Status
1	Wen/Charneux	RAC would request feedback at Research Breakfast on how ASHRAE can get information about completed research out to members and public in layman's terms. Wen and Charneux would review and draft changes to Research Agreement as appropriate to implement this requirement (Action Item 1).	
2	Staff	Review current guidance and proposed changes in the ASHRAE Research Manual related to project co-sponsorship.	
3	RPS	Review point criteria for Service to ASHRAE Research Award and to also determine if rules multiple awards can be made in a year	
4	Staff	Provide a summary of current rules related to RAP and Research Strategic Plan development	

LIST OF ATTACHMENTS

Attachment A – RAC MBOs for 2024-2025

Attachment B – Background on CEC changes impact on Research Agreement Deliverables

**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
(FALL MEETING)

Responsibility Summary of Action

RAS	Initial Plan for Research Breakfast Workshop for Winter Meeting
RLs	Review "Service to ASHRAE Research Award" nominations submitted by TC chairs and select the 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	Plan workshop for new RAC members at the Annual meeting.
RPS	Review Grant-In-Aid Applications

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



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MINUTES

RESEARCH ADMINISTRATION COMMITTEE SEPTEMBER 30th & OCTOBER 2nd, 2024

MEMBERS PRESENT:

Natascha Milesi-Ferretti, *Chair*
Jin Wen, *Vice-Chair*
Roland Charneux, *RPS Chair*
James Bogart, *RAS Chair*
Srinivas Katipamula, *RL Section 1.0*
Chris Gray, *RL Section 2.0*
Zheng O'Neill, *RL Section 3.0*
Dennis Landsberg, *RL Section 4.0*
Matthew Mullen, *RL Section 6.0*
James Bogart, *RL Section 7.0*
Carl Huber, *RL Section 8.0*
Connor Murray, *RL Section 9.0*
WenBin Ng, *RL Section 10.0*
Susanna Hanson, *BOD Ex-O*

GUESTS:

None

ASHRAE STAFF

Steve Hammerling, *MORTS*
Donna Daniel, *AMORTS*

ABSENT MEMBERS

Doug Scott, *RL Section 5.0*
Wade Conlan, *Coord. Officer*
Hywel Davies, *Consultant*
Xudong Wang, *Consultant*

A. CALL TO ORDER & INTRODUCTIONS

Chair Milesi-Ferretti called the meeting of the committee to order on Monday, September 30, 2024, at 9:00 AM EDT. Attendees introduced themselves. Quorum was confirmed by staff.

B. ADDITIONS AND/OR CHANGES TO THE AGENDA

Milesi-Ferretti added agenda items E.e PES training and E.f *RP co-funding* under Chair's report.

C. 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

D. APPROVAL OF 2024 ANNUAL MEETING DRAFT MINUTES

It was moved and seconded that,

- (1) the draft minutes of the RAC 2024 spring meeting be approved as drafted.

MOTION 1 PASSED: 12-0-0-1 CNV

E. CHAIR'S REPORT

a) *Disposition of Motions from Last Meeting*

No motions from the Annual Meeting required higher body approval.

b) *Discussion of Strategic Plan*

This was deferred to second part of RAC meeting. Members were asked to review for Wednesday.

c) *MBOs*

RAC MBOs for 2024-2025 were presented as **Attachment A**. All members were asked for feedback.

RAC would request feedback at Research Breakfast on how ASHRAE can get information about completed research out to members and public in layman's terms. Wen and Charneux would review and draft changes to Research Agreement as appropriate to implement this requirement (**Action Item 1**).

d) *Discussion about the possibility of eliminating technical papers as a contractual requirement*
Information on the CEC proposal is included as **Attachment B**. Staff would send a summary of the RAC discussion to CEC:

- RAC is OK with removing the option technical paper deliverable in the ASHRAE Research Agreement. This can be easily done with RAC approval
- RAC would keep option for STBE as a deliverable and encourage this option
- There is a debate within RAC if a Conference Paper submission or Conference Paper approval/presentation would be a deliverable option
- Already signed Research Agreements still require Technical Paper or STBE submission as a deliverable.
- RAC recommends that CEC continues research sessions at ASHRAE Conferences to feature ASHRAE research results.

e) *PES training – Work Statement check*

PES training was posted to RAC Basecamp. There was a discussion on how RAC could require PES members to review this training. Options discussed included a check box on WS form, coordination with RL and requiring PES chair to verify their committee members have reviewed training.

f) *RP co-funding*

Staff would review current guidance and proposed changes in the ASHRAE Research Manual related to project co-funding (**Action Item 2**). TCs are being asked to seek co-funding and provide contact information of organizations that may have an interest, but a formal process and timeline should be developed to assure opportunities are maximized, and that funding is committed to and secured as appropriate time in research process.

F. TRPs THAT COULD POTENTIALLY BID FALL 2024 – RAS Lead

Sufficient funds exist in RAC's FY24-25 budget to fund the 8 projects below. Projects would be released for bid October 15th and due December 15th. RAC could approve selected bids at Winter Meeting.

- a) 0003-WSP, *Design Guide for Radiant Heating and Cooling Systems*, Responsible Committee TC 6.5 Radiant Heating and Cooling; Co-Sponsors: None Co-funding: None; Estimated Duration: 24 months; Estimated Cost to ASHRAE: \$100,000
- b) 1566-TRP-R, *Equations to estimate evaporation rates from heated water pools in indoor recreational aquatic facilities*; Responsible Committee: TC 8.10 (Mechanical and Desiccant Dehumidification Equipment, Heat Pipes and Components); Co-Sponsors: TC 9.8, (Large Building and Air Conditioning Application); Co-funding: None; Estimated Duration: 24 months; Estimated Cost to ASHRAE: \$200,000
- c) 1909-TRP, *In-Tube Condensing Flue Gas Heat Transfer and Pressure Drop with Enhancements for Residential Furnaces*; Responsible Committee: TC 1.03 (Heat Transfer and Fluid Flow); Co-Sponsors: TC 6.03 (Residential and Light Commercial Forced Air Heating and Cooling Systems); Co-funding: None; Estimated Duration: 30 months; Estimated Cost to ASHRAE: \$245,500
- d) 1910-TRP, *Evaluation of Standard 103 Transient Components and Thermostat Cycle Times on the Resulting AFUE (rebid)*; Responsible Committee: TC 6.03, (Residential and Light Commercial Forced Air Heating and Cooling Systems); Co-Sponsors: None; Co-funding: None; Estimated Duration: 36 months; Estimated Cost to ASHRAE: \$235,000
- e) 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 9.9 (Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment); Co-Sponsors: TC 2.03 (Gaseous Air Contaminants and Gas Contaminant Removal Equipment), TC 2.04 (Particulate Air Contaminates and Particulate Contaminant Removal Equipment); Estimated Duration: 24 months; Estimated Cost to ASHRAE: \$280,000
- f) 1915-TRP, *Refrigerated Facilities Doorway Infiltration Air Energy Reduction*; Responsible Committee: TC 10.02 (Refrigeration Applications); Co-Sponsors: None; Co-funding: None; Estimated Duration: 22 months; Estimated Cost to ASHRAE: \$300,000
- g) 1947-TRP, *Climate change driven extreme temperature effects for efficiency and resilience map of heat pump technology*; Responsible Committee: TC 2.05 (Global Climate Change); Co-Sponsors: TC 4.2 Climatic Information; TC 2.8 Building Environmental Impacts and Sustainability Co-funding: None; Estimated Duration: 36 months; Estimated Cost to ASHRAE: \$265,000
- h) 1964-TRP, *Optimizing Heating System Performance in Warmup and Setback Modes*; Responsible Committee: TC 1.04 (Control Theory and Application); Co-Sponsors: TC 7.05 (Smart Building Systems) None; Co-funding: None; Estimated Duration: 24 months; Estimated Cost to ASHRAE: \$280,000

G. SERVICE TO ASHRAE RESEARCH AWARD NOMINATIONS – RPS Lead

There were three nominations received for the Service to ASHRAE Research Award.

It is moved and seconded that,

- (2) Paul Turnbull of TC 5.6, be awarded the 2024-2025 Service to ASHRAE Research Award.

MOTION 2 PASSED: 12-0-0-1 CNV

RPS was asked to review point criteria for Service to ASHRAE Research Award and to determine if rules multiple awards can be made in a year (**Action Item 3**).

H. RTAR REVIEW

RAC reviewed two RTARs for this meeting, both were accepted with comments. Comments and questions from RAC should be addressed to the satisfaction of the Research Liaison (RL) in the Work Statement draft.

It is moved and seconded that,

- (3) 1975-RTAR, Expanding ASHRAE Metabolic Rates Database for a Complete Lifespan (6-70y), sponsored by TC 2.01 (Physiology & Human Environment), be accepted with comments.

MOTION 3 PASSED RAC: 12-0-0-1 CNV

It is moved and seconded that,

- (4) 1976-RTAR, Ozone Removal Efficiency and Generation of Byproducts on VOC-Loaded Gas-Phase Air Cleaning Devices, sponsored by TC 2.03 (Gaseous Air Contaminants and Gas Contaminant Removal Equipment), be accepted with comments.

MOTION 4 PASSED RAC: 12-0-0-1 CNV

I. WORK STATEMENT REVIEW

RAC reviewed a total of seven new and revised work statements that were submitted to RAC. Four were returned with comments and three were conditionally accepted. RAC approval conditions should be addressed to the satisfaction of the Research Liaison (RL) in either written responses or revisions to the work statement.

It is moved and seconded that,

- (5) 1811-WS, *Determining Occupancy Patterns in Clusters of Buildings with Data Drawn from Web Based Social Media and Mobile Positions*, sponsored by TC 1.05 (Emerging Computing Applications) & TC 7.10 (Occupant Behavior in Building Design and Operation), be returned.

MOTION 5 PASSED RAS: 5-0-0-1 CNV

It is moved and seconded that,

- (6) 1825-WS, *Effects of Locally Provided Makeup Air*, sponsored by TC 5.10 (Kitchen Ventilation), TC 5.03 (Room Air Distribution) & TC 2.01 (Physiology and Human Environment) be conditionally accepted.

MOTION 6 PASSED RAC: 12-0-0-1 CNV

It is moved and seconded that,

- (7) 1851-WS, *Dielectric Properties of Lower GWP Refrigerants*, sponsored by TC 3.01 (Refrigerants and secondary Coolants), be returned.

MOTION 7 PASSED RAS: 5-0-0-1 CNV

It is moved seconded that,

- (8) 1936-WS, Evaluation of relative impact of air change rate (ACR) and airflow patterns on the ventilation performance of indoor spaces, sponsored by MTG.ACR (Air Change Rate), be conditionally accepted.

MOTION 8 PASSED RAC: 12-0-0-1 CNV

It is moved and seconded that,

- (9) 1941-WS, Experimental Program to Update the ASHRAE *Duct Fitting Database (DFDB)*. TC 5.02 (Duct Design), be returned.

MOTION 9 PASSED RAS: 6-0-0

It is moved and seconded that,

- (10) 1970-WS, *Study of Grout for Ground Heat Exchangers*, sponsored by TC 6.08 (Geothermal Heat Pump and Energy Recovery Applications), be conditionally accepted.

MOTION 10 PASSED RAC: 11-0-0-1 CNV

RAC Meeting was recessed at approximately 11:00 AM EDT on September 30, 2024.

RAC Meeting was reconvened at approximately 9:00 AM EDT on October 2, 2024.

It is moved and seconded that,

- (11) 1972-WS, *Data Center Direct-to-Chip Liquid Cooling Resiliency – Failure Modes and IT Throttling Impacts, Liquid Cooling Energy Use Metrics and Modeling*, sponsored by TC 9.09 (Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment), be returned.

MOTION 11 PASSED RAS: 5-0-0-1 CNV

J. NEW BUSINESS

Discussion of ASHRAE Strategic Plan

Hanson noted that a sub team of the ASHRAE Board of Directors is working with a third party on the development of the next ASHRAE Strategic Plan. The new plan would start in 2025. A draft is not ready to share with RAC but would be made available for review and comment after the Fall Board of Directors meeting.

Discussion of ASHRAE Research Strategic Plan

The current ASHRAE Research Strategic Plan runs through 2025. Traditionally, RAC has recommended a Research Advisory Panel (RAP), appointed by the Board of Directors, to develop the Research Strategic Plan.

Past RAC chair, Bill Murphy noted the rules for RAC to develop the RAP are no longer in the Tech Council Manual of Procedures. Murphy was asked to explore if RAP should be a standing subcommittee of RAC to avoid reconstituting this committee and to help assure quicker development time. This would require changes to RAC ROB and current procedures for developing this Research Strategic Plan. RAC would continue to explore. Staff would provide a summary of current rules related to RAP and Research Strategic Plan development (**Action Item 4**).

Discussion of Automated Research portal

Staff noted the vendor would provide a demo on Friday October 4th to review the RTAR, WS, and TRP portions of the automated research portal. Testing would be done in a phased schedule by RAC members, then TC members. A specific timeline can be provided after meeting with vendors on Friday.

K. ADJOURNMENT

The meeting of the Research Administration Committee was adjourned at approximately 9:30 AM EDT.

From: Hammerling, Steve <shammerling@ashrae.org>
Sent: Thursday, September 12, 2024 10:40:22 AM
To: Milesi-Ferretti, Natascha S. (Fed) <natascha.milesi-ferretti@nist.gov>; Wen, Jin <jinwen@drexel.edu>
Cc: Daniel, Donna <ddaniel@ashrae.org>
Subject: RAC research agreement - Technical Papers
 Hi Natascha & Jin,

I received a note from a staffer in our Conferences & Expositions Committee (CEC) noting that they are discussing the possibility of discontinuing ASHRAE Technical Papers. This would mean Conference Papers would be the only papers presented at ASHRAE conferences. They reached out to me for RAC and Staff input on the matter. If OK with you, we can include on agenda for upcoming RAC.

Currently, a Technical Paper is a research agreement deliverable (General Conditions IV.c) so this would have to be changed if CEC did eliminate the Technical Paper.

GENERAL CONDITION IV - DELIVERABLES

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

- c. Science and Technology for the Built Environment or ASHRAE Transactions Technical Papers

One or more papers shall be submitted first to the ASHRAE Manager of Research and Technical Services (MORTS) and then to the "ASHRAE Manuscript Central" website-based manuscript review system in a form and containing such information as designated by the Society suitable for publication. Papers specified as deliverables should be submitted as either Research Papers for Science and Technology for the Built Environment or Technical Paper(s) for ASHRAE Transactions. Research papers contain generalized results of long-term archival value, whereas technical papers are appropriate for applied research of shorter-term value. ASHRAE Conference papers are not acceptable as deliverables from ASHRAE research projects. The paper(s) shall conform to the instructions posted in "Manuscript Central" for an ASHRAE Transactions Technical or Science and Technology for the Built Environment papers. The paper title shall contain the research project number (XXXX-RP) at the end of the title in parentheses, e.g., (XXXX-RP).

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

Also, there are differences in format and review process for Conference Papers vs. Technical Papers, summarized here:

Technical Paper

Technical Papers undergo a rigorous double-blind review and must be approved by three reviewers knowledgeable in the subject matter.

- Technical Papers can be up to 30 double-spaced manuscript pages in length, including tables and charts, and a maximum of 12 figures (not counted in the page count).
- The Technical Papers must be presented at the conference (poster or orally) in order to be published in *ASHRAE Transactions*, where they will be included with questions and answers (if any).

Conference Papers

- Conference Papers undergo a single-blind review (reviewers are anonymous) shorter than Technical Papers, undergo a less stringent review and can be prepared closer to the conferences.
- Abstracts of Conference Papers are submitted first for review. Upon acceptance, papers are due three months after abstract acceptance
- Must be approved by two reviewer knowledgeable in the subject matter.
- Upon approval, papers are scheduled for oral presentation.
- Conference Papers can be no more than 8 single-spaced pages in length total (includes text, tables, figures, etc.). This page count does not include references.

CEC as mentioned the possibility of a Research Conference Paper with an extended length requirement, possibly other modifications) if the shorter length is a concern. At this time, CEC is just seeking RAC input on the idea.

There is a GIA requirement for a peer-reviewed paper to receive a third payment as well. This doesn't state if the paper has to be a technical paper or conference paper, just that it should be peer reviewed, so I interpret that either would be sufficient.

Thanks!

Steve