



Shaping Tomorrow's
Built Environment Today

MINUTES

RESEARCH ADMINISTRATION COMMITTEE

**PRE-KC RAC WEB MEETING
JUNE 3, 2019**

&

**MARIOTT HOTEL
KANSAS CITY, MO**

JUNE 22 & 26, 2019

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**PRINCIPAL MOTIONS
RESEARCH ADMINISTRATION COMMITTEE
JUNE 3, 22 & 26, 2019**

NO.	PAGE	MOTION
1	2	Draft minutes of the RAC 2019 spring meeting be approved as written.
2	2	RAC approved a motion to fund the Great Predictor Shoot-out Competition at a cost to ASHRAE of \$25,000.
3	3	<u>1854-RTAR, Database of Ultraviolet Inactivation Rate Constants (k-values) for Microorganisms Critical to System Design</u> , sponsored by TC 2.9 (Ultraviolet Air and Surface Treatment), <u>be accepted</u> .
4	4	<u>1877-RTAR, Outdoor ozone in naturally ventilated buildings</u> , sponsored by TC 4.3 (Ventilation Requirements and Infiltration); <u>be rejected</u> .
5	4	<u>1878-RTAR, Outdoor particulate matter penetration and indoor PM removal rates in naturally ventilated commercial buildings</u> , sponsored by TC 4.3 (Ventilation Requirements and Infiltration), <u>be accepted with comments</u> .
6	4	<u>1880-RTAR, Characterizing Indoor Particle Size Distributions to Inform Air Filtration Standards and Guidelines</u> , sponsored by TC 2.4 (Particulate Air Contaminants and Particulate Contaminant Removal Equipment), <u>be rejected</u> .
7	4	<u>1881-RTAR, Cold shipment and subsequent acclimation of electronic hardware</u> , sponsored by TC 9.9 (Mission Critical Facilities, Data Centers, Technology Spaces, and Electronic Equipment), <u>be rejected</u> .
8	4	<u>1882-RTAR, Procedure for Estimating Occupied Space Sound Levels in the Application of UFAD Air Terminals and Air Outlets</u> ; sponsored by TC 5.3, (Room Air Distribution), <u>be accepted with comments</u> .
9	4	<u>1566-WS, Equations to estimate evaporation rates from heated water pools in indoor recreational aquatic facilities</u> , sponsored by TC 8.10 (Mechanical Dehumidification Equipment and Heat Pipes); co-sponsored by TC 9.8 (Large Building Air-Conditioning Applications), <u>be conditionally accepted</u> .
10	5	<u>1730-WS, Research to determine the mass flow rate correlations across standard venting strategies and components in attic spaces with sloped roofs</u> , sponsored by TC 4.4 (Building Materials and Building Envelope Performance); co-sponsored by TC 4.7 (Energy Calculations), <u>be returned</u> .
11	5	<u>1796-WS, Application Guide for Absorption Chillers and Heat Pumps</u> , sponsored by TC 8.3 (Absorption and Heat Operated Machines); <u>be returned</u> .
12	5	<u>1799-WS, Validation of Extrapolation of Performance Rating Test Results for Small Energy Exchangers to Large Exchangers</u> ; sponsored by TC 5.5 (Air-to-Air Energy Recovery), <u>be conditionally accepted</u> .
13	5	<u>1809-WS, Updating Reference Guide for Dynamic Models of HVAC</u> , sponsored by TC 7.5, Smart Building Systems, <u>be returned</u> .
14	5	<u>1811-WS, Determining Occupancy Patterns in Clusters of Buildings with Data Drawn from Web Based Social Media and Mobile Positions</u> , sponsored by TC 1.5 (Computer Applications); co-sponsored by MTG.OBB), <u>be returned</u> .
15	5	<u>1812-WS, Detection and Diagnosis of Circulating Fluid Leakage from Hydronic Systems</u> , sponsored by TC 7.5, Smart Building Systems, <u>be returned</u> .
16	5	<u>1815-WS, Integrating Occupant Behavior Data into Building Information Models for Performance Simulation</u> , sponsored by MTG.OBB (Occupant Behavior in Buildings) – co-sponsored by MTG.BIM (Building Information Modeling) and TC 1.5 (Computer Applications); <u>be returned</u> .
17	6	<u>1817-WS, Long-term temperature change of ground heat exchangers</u> , sponsored by TC 6.8 (Geothermal Heat Pump and Energy Recovery Applications), <u>be conditionally accepted</u> .

18	6	<u>1824-WS</u> , <i>Accounting for Barometric Pressure Impacts on Psychrometric Performance Testing of Unitary Air-Conditioning and Heat Pump Equipment</i> , sponsored by TC 8.11 (Unitary and Room Air Conditioners and Heat Pumps), be accepted.
19	6	<u>1829-WS</u> , <i>Inlet and Outlet System Effects on Multiple Plenum Fans (Fan Arrays) in a Parallel Arrangement for Air a Sound Performance</i> , sponsored by TC 5.1 (Fans); co-sponsored by TC 2.6 (Sound & Vibration), be returned.
20	6	<u>1852-WS</u> , <i>Develop performance metric, criteria, and process to measure and predict speech privacy in High Performance Buildings</i> , sponsored by TC 2.6 (Sound and Vibration Control); be conditionally accepted.
21	6	<u>1865-WS</u> , <i>Optimizing Supply Air Temperature Control for Dedicated Outside Air Systems</i> , sponsored by TC 1.4 (Control Theory and Application); co-sponsored by TC 8.10 (Mechanical Dehumidification Equipment and Heat Pipes); be conditionally accepted.
22	6	Dr. W. Travis Horton of Purdue University be the recipient of the 2019-2020 Innovative Research Grant Award.
23	8	<u>1644-TRP</u> , “ <i>Smoke Control in Long Atria</i> ”, be awarded to Jensen Hughes, for a period of 15 months at a total cost to ASHRAE of \$78,870.
24	8	<u>1833-TRP</u> , “Literature Review for Evidence of the Basis for Specified Air Change Rates (ACR) for Cleanrooms, Laboratories, laboratory animal facilities, and health care facilities with medium to high ACR”, be awarded to Affiliated Engineers, for a period of 14 months at a total cost to ASHRAE of \$71,300.
25	8	<u>1836-TRP</u> , “Developing a Standardized Categorization System for Energy Efficiency Measures”, be awarded to the University of Cincinnati for a period of 16 months at a total cost to ASHRAE of \$62,674.
26	8	<u>1837-TRP</u> , “The Effects of Ventilation in Sleeping Environments”, be awarded to the Technical University Denmark for a period of 36 months at a total cost to ASHRAE of \$230,541.
27	9	RAC approved a motion to release 1855-TRP, “Determination of the Impact of Combustion Byproducts on the Safe Use of Flammable Fluorinated Refrigerants”, for a special solicitation in the fall 2019.

**New Action Items
Research Administration Committee (RAC)
Annual Meeting 2019**

Action #	Responsibility	Summary of Action	Page
1	Wilkins, Yashar, Eichelberger,	Write up proposed changes to the RAC MOP that research liaisons should not be research authors.	2
2	Staff	Continue to collect project cost data for the new research project estimating guide.	2
3	MORTS	Set up new RAC member training session in July.	7
4	MORTS	Poll for two RAC fall web meetings once TechC fall meeting date is set.	7

**RECURRING ACTION ITEMS
(EACH MEETING)**

<u>Responsibility</u>	<u>Summary of Action</u>
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) upon (Secondary)	Review and revise the Society's Research Implementation Plan based 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)**

<u>Responsibility</u>	<u>Summary of Action</u>
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)

<u>Responsibility</u>	<u>Summary of Action</u>
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)

<u>Responsibility</u>	<u>Summary of Action</u>
RPS	Plan workshop for new RAC members at the Annual meeting.
RPS	Review Grant-In-Aid Applications

RECURRING ACTION ITEMS
(ANNUAL MEETING)

<u>Responsibility</u>	<u>Summary of Action</u>
Chair meeting.	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

LIST OF ATTACHMENTS

ATTACHMENT 1: MORTS Report
ATTACHMENT 2: 1644-TRP Analysis Sheet
ATTACHMENT 3: 1833-TRP Analysis Sheet
ATTACHMENT 4: 1836-TRP Analysis Sheet
ATTACHMENT 5: 1837-TRP Analysis Sheet

ATTACHMENTS NOT POSTED OR DISTRIBUTED OUTSIDE OF RAC

ATTACHMENT 2: 1644-TRP Analysis Sheet
ATTACHMENT 3: 1833-TRP Analysis Sheet
ATTACHMENT 4: 1836-TRP Analysis Sheet
ATTACHMENT 5: 1837-TRP Analysis Sheet



Shaping Tomorrow's
Built Environment Today

MINUTES

RESEARCH ADMINISTRATION COMMITTEE JUNE 3, 22 & 26, 2019

MEMBERS PRESENT:

John Shonder, *Chair*
David Yashar, *Vice-chair*
Christopher Wilkins, *Chair RAS*
Curtis Eichelberger, *Chair RPS*
Shinsuke Kato, *RL Section 1.0*
Pawel Wargocki, *RL Section 2.0*
Stephen Kujak, *RL Section 3.0*
Michael Pouchak, *RL Section 4.0*
Dennis Loveday, *RL Section 5.0*
Omar Abdelaziz, *RL Section 6.0*
William Murphy, *RL Section 7.0*
Christopher Seeton, *RL Section 8.0*
Paolo Tronville, *RL Section 9.0*
Krishnan Gowri, *RL Section 10.0*
Xudong Wang, *Consultant AHRTI*
Hywel Davies, *Consultant CIBSE*
Douglas Fick, *BOD Ex-Officio*
Michael Schwedler, *Coordinating Officer*

MEMBERS ABSENT:

Ian Cull, *Consultant IAQA*
Rick Schwedler, *Coordinating Officer*

A. CALL TO ORDER

Chair Shonder called the meeting of the committee to order on Saturday morning, June 22, 2019, at 8:00 a.m.

B. ASHRAE CODE OF ETHICS

<https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>

C. ADDITONS AND/OR CHANGES TO THE AGENDA

None

D. NEW ACTION ITEM TRACKING

Staff volunteered to track new actions items.

GUESTS:

Ahmed Kashef, *Incoming RL*
William Hutzell, *Incoming RL*
David Claridge, *Incoming RL*
Lorenzo Cremaschi, *Incoming RL*

ASHRAE STAFF:

Michael Vaughn, *MORTS*
Tara Thomas, *AA*

E. APPROVAL OF MINUTES

It was moved and seconded that,

- (1) Minutes for the RAC 2019 spring meeting be approved as drafted.

MOTION PASSED: 12-0-2 CNV

F. CHAIR'S REPORT

- a) Disposition of Motions requiring higher-level approval from last Meeting – TRP-1734 funded extension request was approved by TechC.
- b) New & On-going Action Items Assigned by Tech. Council
 1. TechC AI for Art Giesler to send Chair Shonder potential MOP revisions for Research Planning.
 2. Formation of a new Research Advisory Panel for SY 19-20
 3. Better support Research Promotion in raising funds for ASHRAE research program.
- c) Briefing on Technology Council Pre-Meeting – May 23, 2019
- d) New Information Items:
 1. Update on expedited A2L refrigerant research effort – Kujak & Wang
 2. Future for ASHRAE Research Technology Transfer Process (Yashar)
 3. Need for PES Training Module now to complement PMS module (MORTS)
 4. Can we try to set our fall and spring meeting dates with TechC leadership by July 1, 2019?
 5. Request from PHIUS (Passive House Institute U.S.) for a meeting in KC to discuss possible opportunities for collaboration on research.
 6. Update on efforts to form a new Research Advisory Panel
 7. Revised TRP-1830 submitted by TC 9.3 for rebid consideration. **A.I.#5 SPR19**
 8. Request for \$25k in prize funding for proposed Great Predictor Shootout 3 Competition led by TCs. 4.7, 1.5 and 7.5 on the Kaggle platform (www.kaggle.com).
 9. Conflicts of Interest

Action #1 < Wilkins, Yashar, Eichelberger>: Write up proposed changes to the RAC MOP that research liaisons should not be research authors.

Action #2 < Staff>: Continue to collect project cost data for the new research project estimating guide.

It is moved and seconded that,

- (2) ASHRAE Great Energy Predictor Shootout 2019 be awarded to Kaggle, for a period of 16 months at a cost to ASHRAE of \$25,000 to cover the prize awards for the top three winners of the competition.

MOTION PASSED: 12-0-1 CNV

G. BOD EX-OFFICIO & COORD. OFFICER – FICK & SCHWEDLER

Douglas Fick gave a brief presentation on the overall society and the new ASHRAE Strategic Plan 2019 - 2024.

H. REVIEW ACTION ITEMS & MBOs

February 26, 2019

Action #	Lead	Summary of Action	Status
1	All RAC Members	Each member of RAC come up with willing candidate names for new SY 19-22 RAP Chair position and other panel members prior to April 15th and send to Chris W. & MORTS	Complete
2	Loveday Eichelberger Kujak, Tronville	Develop list of ideas to streamline current RAC processes for better time and cost efficiency.	Complete
3	MORTS	Set up a doodle poll of AI#2 working group and then schedule monthly meetings between now and Annual meeting so that the group can review current RAC processes for time and cost savings	Complete
4	Yashar	Set time a date for Spring 2019 PMS Training Webinar and give training presentation	Complete
5	MORTS	Obtain RAC approval vote on revised TRP-1830 <i>Experimental Characterization of Aircraft Bleed Air Particulate Contamination</i> before project is released for re-bid.	On-going
6	MORTS	Draft strongly worded letter of protest to Purdue University regarding RP-1734 situation.	Complete
7	Staff	Post the Research Database link to basecamp and notify TCs of its availability in Spring 2019 R&T report to TCs.	Complete
8	Pouchak	Post to basecamp the new WS statement template that includes the new plain English abstract section.	Complete
9	Staff	Revise Research Manual text to account for new plain English abstract section on Work statement template and post revised manual and new WS Template to ASHRAE website.	Complete
10	MORTS	Determine what financial support, if any, is available in budget for transportation to RAP face-to-face meetings.	On-going

I. RTAR REVIEW

RAC reviewed a total of six RTARs submitted by TC/TGs for addition to the Society's Research Implementation Plan. One was accepted as-is, two were accepted with comments, and three were rejected. The status of the RTARs after RAC review is provided below.

It is moved and seconded that,

- (3) 1854-RTAR, *Database of Ultraviolet Inactivation Rate Constants (k-values) for Microorganisms Critical to System Design*; sponsored by TC 2.9 (Ultraviolet Air and Surface Treatment), be accepted.

MOTION PASSED: 12-0-1, CNV

It is moved and seconded that,

- (4) 1877-RTAR, *Outdoor ozone in naturally ventilated buildings*; sponsored by TC 4.3 (Ventilation Requirements and Infiltration), be rejected.

MOTION PASSED RPS: 3-2-1, CNV

It is moved and seconded that,

- (5) 1878-RTAR, *Outdoor particulate matter penetration and indoor PM removal rates in naturally ventilated commercial buildings*; sponsored by TC 4.3 (Ventilation Requirements and Infiltration), be accepted with comments.

MOTION PASSED: 10-2-0 CNV

It is moved and seconded that,

- (6) 1880-RTAR, *Characterizing Indoor Particle Size Distributions to Inform Air Filtration Standards and Guidelines*; sponsored by TC 2.4 (Particulate Air Contaminants and Particulate Contaminant Removal Equipment), be rejected.

MOTION PASSED RPS: 3-1-1 CNV

It is moved and seconded that,

- (7) 1881-RTAR, *Cold shipment and subsequent acclimation of electronic hardware*; sponsored by TC 9.9 (Mission Critical Facilities, Data Centers, Technology Spaces, and Electronic Equipment), be rejected.

MOTION PASSED RPS: 4-0-1 CNV

It is moved and seconded that,

- (8) 1882-RTAR, *Procedure for Estimating Occupied Space Sound Levels in the Application of UFAD Air Terminals and Air Outlets*; sponsored by TC 5.3, (Room Air Distribution), be accepted with comments.

MOTION PASSED: 12-0-1 CNV

J. WORK STATEMENT REVIEW

Thirteen work statements were submitted to RAC. One was accepted, five were conditionally accepted and seven were returned with comments.

It is moved and seconded that,

- (9) 1566-WS, *Equations to estimate evaporation rates from heated water pools in indoor recreational aquatic facilities*; sponsored by TC 8.10 (Mechanical Dehumidification Equipment and Heat Pipes); co-sponsored by TC 9.8 (Large Building Air-Conditioning Applications), be conditionally accepted.

MOTION PASSED: 11-0-0, CNV

It is moved and seconded that,

- (10) 1730-WS, *Research to determine the mass flow rate correlations across standard venting strategies and components in attic spaces with sloped roofs*; sponsored by TC 4.4 (Building Materials and Building Envelope Performance); co-sponsored by TC 4.7 (Energy Calculations), be returned.

MOTION PASSED RAS: 3-1-0, CNV

It is moved and seconded that,

- (11) 1796-WS, *Application Guide for Absorption Chillers and Heat Pumps*; sponsored by TC 8.3 (Absorption and Heat Operated Machines), be returned.

MOTION PASSED RAS: 3-1-0, CNV

It is moved and seconded that,

- (12) 1799-WS, *Validation of Extrapolation of Performance Rating Test Results for Small Energy Exchangers to Large Exchangers*; sponsored by TC 5.5 (Air-to-Air Energy Recovery), be conditionally accepted.

MOTION PASSED: 11-0-0, CNV

It is moved and seconded that,

- (13) 1809-WS, *Updating Reference Guide for Dynamic Models of HVAC*; sponsored by TC 7.5 (Smart Building Systems), be returned.

MOTION PASSED RAS: 4-0-0, CNV

It is moved and seconded that,

- (14) 1811-WS, *Determining Occupancy Patterns in Clusters of Buildings with Data Drawn from Web Based Social Media and Mobile Positions*; sponsored by TC 1.5 (Computer Applications); co-sponsored by MTG.OBB; be returned.

MOTION PASSED RAS: 4-0-0, CNV

It is moved and seconded that,

- (15) 1812-WS, *Detection and Diagnosis of Circulating Fluid Leakage from Hydronic Systems*; sponsored by TC 7.5 (Smart Buildings), be returned.

MOTION PASSED RAS: 4-0-0, CNV

It is moved and seconded that,

- (16) 1815-WS, *Integrating Occupant Behavior Data into Building Information Models for Performance Simulation*; sponsored by MTG.OBB (Occupant Behavior in Buildings) – Co-Sponsors: MTG.BIM (Building Information Modeling) and TC 1.5 (Computer Applications), be returned.

MOTION PASSED RAS: 3-1-0, CNV

It is moved and seconded that,

- (17) 1817-WS, *Long-term temperature change of ground heat exchangers*; sponsored by TC 6.8 (Geothermal Heat Pump and Energy Recovery Applications); be conditionally accepted.

MOTION PASSED: 11-0-0, CNV

It is moved and seconded that,

- (18) 1824-WS, *Accounting for Barometric Pressure Impacts on Psychrometric Performance Testing of Unitary Air-Conditioning and Heat Pump Equipment*; sponsored by TC 8.11 (Unitary and Room Air Conditioners and Heat Pumps); be accepted.

MOTION PASSED: 11-0-0, CNV

It is moved and seconded that,

- (19) 1829-WS, *Inlet and Outlet System Effects on Multiple Plenum Fans (Fan Arrays) in a Parallel Arrangement for Air a Sound Performance*; sponsored by TC 5.1 (Fans); co-sponsored by TC 2.6 (Sound & Vibration); be returned.

MOTION PASSED RAS: 4-0-0, CNV

It is moved and seconded that,

- (20) 1852-WS, *Develop performance metric, criteria, and process to measure and predict speech privacy in High Performance Buildings*; sponsored by TC 2.6 (Sound and Vibration Control), be conditionally accepted.

MOTION PASSED: 12-2-0, CV

It is moved and seconded that,

- (21) 1865-WS, *Optimizing Supply Air Temperature Control for Dedicated Outside Air Systems* - TC 1.4 (Control Theory and Application); co-sponsored by TC 8.10 (Mechanical Dehumidification Equipment and Heat Pipes), be conditionally accepted.

MOTION PASSED: 11-0-0, CNV

K. INNOVATIVE RESEARCH GRANT (IRG) – FULL PROPOSALS

Four full IRG proposals were reviewed.

It is moved and seconded that,

- (22) Dr. W. Travis Horton of Purdue University be the recipient of the 2019-2020 Innovative Research Award.

MOTION PASSED: 9-0-0, CNV

L. UNSOLICITED RESEARCH PROPOSALS (URPS)

None

M. CONSULTANTS REPORTS

- a) AHRTI- see AHRTI report submitted by Xudong Wang – gave brief report
- b) CIBSE – Hywel Davies – gave brief report

N. RESEARCH SUBCOMMITTEE CHAIR'S BREAKFAST

- a) Time/Location: Mon., 6:30 to 8 a.m., Imperial room – Lobby Level – Marriott-East Hotel
- b) Proposed Announcements:
 - 1. New RAP and kickoff of New Research Strategic Plan development effort
 - 2. Development of New Tech. Transfer forms & Procedures for projects resulting in an ASHRAE Special Publication is underway within PUB committee.
 - 3. *Service to ASHRAE Research Award* Nominations needed
 - 4. *Homer Addams Award* Nominations needed
 - 5. *New Investigator Award* Nominations needed
 - 6. Better Notification of PI/PMS meetings needed
 - 7. Effort will be made to make WS and RTAR forms more user-friendly
 - 8. Additional Announcements (TBD)
- c) RL Reminders for TCs

O. PLANS FOR FY 18-19 SOCIETY YEAR

- A. Plans for FY 19-20 Society Year
 - a) Thank the chair and members rolling-off RAC (Shonder, Kato, Wargocki, Gowri, and Fick)
 - b) Vice Chair and Subcommittee Chairs:
 - a. Chris Wilkins, Vice Chair
 - b. Mike Pouchak, RAS chair
 - c. Curtis Eichelberger, RPS Chair
 - c) Introduce new members of RAC
 - 1. Ahmed Kashef – RL Section 1 - RPS
 - 2. William Hutzal – RL Section 2 - RPS
 - 3. David Claridge – RL Section 4 - RAS
 - 4. Lorenzo Cremaschi – RL Section 10 - RAS
 - 5. Mentors for new members – Ahmed Kashef – Curtis Eichelberger
William Hutzal – Curtis Eichelberger
David Claridge – Mike Pouchak
Lorenzo Cremaschi – Mike Pouchak
 - d) New RAC Member Training – early August Web session prior to fall meeting?
 - e) Review new assignments & positions for RAC members
 - f) Fall Meeting 2019 – Need to meet before TechC meets on **TBD**
 - g) Review SY 19-20 RAC MBOs

Action #3 < Vaughn>: Set-up RAC New member training session in July.

Action #4 < MORTS>: Poll for two RAC Fall web meetings once TechC meeting date is set.

P. MORTS REPORT

MORTS Semi Annual Report - Highlights from the report were discussed and the report is included as **Attachment #1**

Q. UNFINISHED BUSINESS

None

R. TENTATIVE RESEARCH PROJECTS

It is moved and seconded that,

- (23) 1644-TRP, *Smoke Control in Long Atria*, be awarded to Jensen Hughes, for a period of 15 months at a total cost to ASHRAE of \$78,870. **Attachment #2**

MOTION PASSED: 13-0-0 CNV

It is moved and seconded that,

- (24) 1833-TRP, *Literature Review for Evidence of the Basis for Specified Air Change Rates (ACR) for Cleanrooms, Laboratories*, be awarded to Affiliated Engineers, Inc for a period of 14 months at a total cost to ASHRAE of \$71,300. **Attachment #3**

MOTION PASSED: 10-1-0 CNV

It is moved and seconded that,

- (25) 1836-TRP, *Developing a Standardized Categorization System for Energy Efficiency Measures*, be awarded to University of Cincinnati for a period of 16 months at a total cost to ASHRAE of \$62,674. **Attachment #4**

MOTION PASSED: 9-1-2 CNV

It is moved and seconded that,

- (26) 1837-TRP, *The Effects of Ventilation in Sleeping Environments*, be awarded to the Technical University Denmark for a period of 36 months at a total cost to ASHRAE of \$230,541. **Attachment #5**

MOTION PASSED: 11-0-1 CNV

STATUS OF OTHER TENTATIVE RESEARCH PROJECTS THAT WERE UP FOR FUNDING CONSIDERATION AT THIS MEETING:

- 1816-TRP, *Reporting the Energy Use and Heat Gain from Imaging Equipment*; Responsible Committee: TC 9.6, Healthcare Facilities; Co-sponsored by: TC 4.1 (Load Calculation Data and Procedures) & TC 4.7 (Energy Calculation and Modeling) 000 – Status: RAC is seeking clarification on recommended bidder proposal before approving TC recommendation.
- 1838-TRP, *Emerging gas-phase electronic filtration technologies and ASHRAE 145.2 test standard*); Responsible Committee: TC 2.3, Gaseous Air Contaminants/Removal Equipment; Co-Sponsors: SSPC 62.1 & SSPC 145 – Status: TC did not recommend a contractor yet, and funding decision will carry-over to the fall meeting.

S. RESEARCH LIAISON SECTION REPORTS

RL section reports are included as **Attachment #6**

T. UNFINISHED BUSINESS

None

U. NEW BUSINESS

It is moved and seconded that,

- (27) RAC approved a motion to release 1855-TRP, "Determination of the Impact of Combustion Byproducts on the Safe Use of Flammable Fluorinated Refrigerants", for a special solicitation in the fall 2019.

MOTION PASSED: 11-0-1 CNV

V. REVIEW OF NEW ACTION ITEMS

ADJOURNED

The meeting of the Research Administration Committee adjourned at 10:00 AM, Wednesday, June 26, 2019.