



Shaping Tomorrow's  
Built Environment Today

## **MINUTES**

### **RESEARCH ADMINISTRATION COMMITTEE**

**JUNE 26, 27, & JULY 1, 2015**

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

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**JUNE 26, 27, & JULY 1, 2014**

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**PRINCIPAL MOTIONS  
RESEARCH ADMINISTRATION COMMITTEE  
JUNE 26, 27, & JULY 1, 2015**

NO.	PAGE	MOTION
1	2	Minutes of the RAC 2015 winter & spring web meetings were approved as drafted.
2	6	<u>1703-RTAR</u> , <i>Performance of Vapor Retarder Systems Used on Mechanical Insulation</i> ; sponsored by TC 1.8 (Mechanical Systems Insulation), be <u>accepted with comments</u> .
3	6	<u>1759-RTAR</u> , <i>Impact of Air-Flow on Thermal Performance of Air-spaces Behind Cladding (Phase 1 of 2)</i> ; sponsored by TC 4.4 (Building Materials and Building Envelope Performance) be <u>accepted</u> .
4	6	<u>1761-RTAR</u> , <i>Modeling Heat and Moisture Transport in Mechanical Insulation Systems on Below Ambient Insulated Pipes</i> ; sponsored by TC 1.8, (Mechanical Systems Insulation) be <u>rejected</u> .
5	6	<u>1762-RTAR</u> , <i>Update the ASHRAE Design Guide for Combustion Turbine Inlet Air Cooling Systems Published in 1999</i> ; sponsored by TC 1.10 (Cogeneration System) be <u>accepted</u> .
6	7	<u>1763-RTAR</u> , <i>Development of an Improved Toolkit for Analyzing Building Energy Use from Time Series Data: Update to the Inverse Model Toolkit (RP-1050.</i> ; sponsored by TC 4.7 (Energy Calculation); be <u>accepted with comments</u> .
7	7	<u>1764-RTAR</u> , <i>Determine the Absolute Roughness for Phenolic Duct Board and Loss Coefficient for a Rectangular Radius Elbow</i> ; sponsored by TC 5.2 (Duct Design); be <u>accepted with comments</u> .
8	7	<u>1768-RTAR</u> , <i>Assessment of HVAC Equipment Idle Power Consumption as a Percentage of Built Environment Energy Load</i> ; sponsored by TC 1.11 (Electric Motors and Motor Control); be <u>accepted with comments</u> .
9	7	<u>1769-RTAR</u> , <i>Experimental Evaluation of the Efficiency of V-Belt Drives used on Fans</i> ; sponsored by TC 5.1, (Fans); be <u>rejected</u> .
10	7	<u>1773-RTAR</u> , <i>Ignition Potential from Electrical Devices in Commercial and Residential Applications using 2L Refrigerants</i> ; sponsored by TC 3.1, (Refrigerants and Secondary Coolants); be <u>accepted</u> .
11	8	<u>1666-WS</u> , <i>Experimental Evaluation of the Thermal and Ventilation Performance of Stratified Air Distribution Systems Coupled with Passive Chilled Beams</i> ; sponsored by TC 5.3, (Room Air Distribution); be <u>accepted</u> .
12	8	<u>1675-WS</u> , <i>Guidance for CFD Modeling of Data Centers</i> ; sponsored by TC 4.10, (Indoor Environmental Modeling), Co-sponsored by 9.9, (Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment); be <u>accepted</u> .

NO.	PAGE	MOTION
13	8	<u>1711-WS</u> , <i>Advanced Sequences of Operation for HVAC Systems – Phase II Central Plants and Hydronic Systems</i> ; sponsored by TC 1.4, (Control Theory and Application); be <u>accepted</u> .
14	8	<u>1729-WS</u> , <i>Experimental Verification of Cooling Load Calculations for Radiant Systems</i> ; sponsored by TC 4.1, (Load Calculation Data and Procedures); be <u>conditionally accepted</u> .
15	8	<u>1734-WS</u> , <i>Reproducing a Representative Urban Atmospheric Aerosol Distribution at High Concentration in the Laboratory for Air Filter Ageing</i> ; sponsored by TC 2.4, (Particulate Air Contaminants and Gas Contaminant Removal Equipment), Co-sponsored by SSPC 52.2, (Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency by Particulate Size); be <u>rejected</u> .
16	8	<u>1741-WS</u> , <i>Understanding Fan Coil Components and How They relate to Energy Consumption and Energy Modeling</i> ; sponsored by TC 5.3, (Room Air Distribution), Co-sponsored by 7.7, (Testing and Balancing); be <u>returned</u> .
17	9	<u>1758-WS</u> , <i>CFD Modeling and Laboratory Testing of Flat Oval Diverging Tees to Determine Loss Coefficients</i> ; sponsored by TC 5.2, (Duct Design); be <u>rejected</u> .
18	9	<u>1771-WS</u> , <i>Energy Modeling of Typical Commercial Buildings in Support of the ASHRAE Building Energy Quotient Rating System</i> ; sponsored by bEQ, ( <i>Building Energy Quotient Rating System</i> ); co-sponsored by 7.6, (Building Energy Performance); be <u>accepted</u>
19	10	<u>1414-TRP</u> , <i>Update of U-factors, Solar Heat Gain Coefficients and Visible Transmittances of Standard Fenestration Units made from Representative Fenestration Frame and Glazing Systems in the Fenestration Chapter of the Handbook of Fundamentals</i> , be awarded to Design Builder Software, for a period of 15 months at a total cost to ASHRAE of \$79,000.
20	10	<u>1696-TRP</u> , <i>Thermal, Moisture and Air Transport Property Values for New Building and Insulating Materials</i> , be awarded to Building Science Consulting, Inc., for a period of 36 months at a total cost to ASHRAE of \$197,075.
21	10	<u>1702-TRP</u> , <i>Case Studies to Test Performance Measurement Protocols</i> , be awarded to University of Wyoming, for a period of 24 months at a total cost to ASHRAE of \$160,701.
22	10	<u>1747-TRP</u> , <i>Implementation of RP-1547 CO2-based Demand Controlled Ventilation for Multiple Zone HVAC Systems in Direct Digital Control Systems</i> , be awarded to University of Alabama, for a period of 18 months at a total cost to ASHRAE of \$173,738.
23	11	<u>1767-URP</u> , <i>Moist Air Transport Properties Research</i> , be awarded to Kretschmar Consulting Engineers, for a period of 18 at a total cost to ASHRAE of \$49,000.
24	11	RAC approves MORTS to negotiate up to \$25k with CIBSE to co-fund the pilot project as accepted by TC 1.4, Control Theory and Application, related to Guideline 13 and Guideline 29.

#### New Action Items

**Research Administration Committee (RAC)  
Annual Meeting 2015**

<b>Action #</b>	<b>Responsibility</b>	<b>Summary of Action</b>	<b>Page</b>
1	Staff	Update RAC Reference Manual to capture new RAC executive session report implemented by TechC.	2
2	Vaughn	Take excerpts from the interested members' letter and send to TC 1.4 for clarification & response before RAC considers 1746-TRP for award.	2
3	Staff	Send link to TC Research Subcommittee Chairs to test new research database once populated with data from 100 recent projects.	2
4 <b>MBO 1.1</b>	Khankari, Haves, Sachs, Giesler	Further develop the new URP process framework and incorporate approved changes into Research Manual and possibly RAC MOP & RAC Reference Manual as required so that RAC can approve in Orlando	5
5	Khankari, Vaughn	Incorporate approved staged funding concept into Research Manual and possibly RAC MOP & RAC Reference Manual as required so that RAC can approve in Orlando.	5
6	Giesler, Gatlin	Finalize proposed changes to GIA program (part of award for expenses for attending ASHRAE winter and/or summer meetings) for RAC consideration and vote.	5
7	Huber, Shonder, Khankari, Int-Hout	Complete 'Lessons Learned' Report on RP-1603 termination process for TechC fall meeting	5
8	RAS	PMS training module webinar (recorded); revisions to PMS section of Research Manual for improved understanding of PMS duties (a check list?), consider developing cheat sheet for PMS	5
9	Davies, Wang	Develop possible project co-funding prospects from CIBSE & AHRTI	5
10	Sachs, Huber, Staff	Research Manual revisions: more detailed process for research proposals that result in ASHRAE special pubs.	6
11 <b>MBO 2.1</b>	RAC EXCOM	With presidential ad hoc committee, develop information on impact & benefits of ASHRAE Standards & Technology - MTG.IAST proposal in works	6
<b>Action #</b>	<b>Responsibility</b>	<b>Summary of Action</b>	<b>Page</b>

12 <b>MBO</b> 2.1	Sachs, Davies	Provide information on potential consultants, example statement-of-work, and more information on ISO/TC 257 (Evaluation of energy savings) in order to help support MTG.IAST effort.	6
13 <b>MBO</b> 1.2	Haves, Yang, Khankari	Develop a more defined process for software upgrade projects; i.e. there should be fast track approach to link this back to the original project. Should it go out to bid or be single sourced to the original software developer? Make recommendations as an Ad Hoc Committee. How can we make project deliverables more accessible and useful to members?	6
14	Staff	Check to see if Standards' Appeal Process published in Standard MOP or Reference Manual	6
15	Staff	Add a "Request for feedback" section to bottom of RTAR & WS forms so we can collect TC feedback on process while it fresh in RTAR & WS author's mind	7
16 <b>MBO</b> 1.1	Staff	Compile notes from RAC Forum on Process Efficiency and distribute to RAC for review	9
17 <b>MBO</b> 1.1	Staff	Post to the ASHRAE website that Unsolicited Research Proposals procedures are being updated and URPs submissions are on hold until further notice.	11

**RECURRING ACTION ITEMS  
(EACH MEETING)**

<b><u>Responsibility</u></b>	<b><u>Summary of Action</u></b>
Chair	Report to Technology Council on RAC's MBO Status.
Research Liaisons	Remind all TC chairs and research subcommittee chairs in section that a draft of all Work Statement and RTARs, and all later versions should be sent to their Research Liaison for review before information is passed on to the Manager of Research.
RPS (Primary) 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 international URPs to RAS Chair in addition to the cognizant TC and Research Liaison.

**RECURRING ACTION ITEMS  
(ANNUAL MEETING)**

<b><u>Responsibility</u></b>	<b><u>Summary of Action</u></b>
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.

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

**Responsibility Summary of Action**

RPS	Plan workshop for new RAC members at the Annual meeting.
RPS	Review Grant-In-Aid Applications
RPS	Review New Investigator Award Nominations
RPS	Review Homer Addams Award Nominations
MORTS	Prepare semi-annual report to RAC by May 15.
RAC	Decide if spring meeting is needed and set date for spring meeting.

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

**Responsibility Summary of Action**

RAS	Plan Research Workshop for 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.



## **LIST OF ATTACHMENTS**

ATTACHMENT 1:	14-15 RAC MBOs
ATTACHMENT 2:	AHRTI Consultant Report
ATTACHMENT 3:	CIBSE Consultant Report
ATTACHMENT 4:	15-16 RAC MBOs
ATTACHMENT 5:	MORTS Semi Annual Report
ATTACHMENT 6:	1414-TRP Analysis Sheet
ATTACHMENT 7:	1696-TRP Analysis Sheet
ATTACHMENT 8:	1702-TRP Analysis Sheet
ATTACHMENT 9:	1747-TRP Analysis Sheet
ATTACHMENT 10:	1767-URP Analysis Sheet
ATTACHMENT 11:	RL section reports

## **ATTACHMENTS NOT POSTED OR DISTRIBUTED OUTSIDE OF RAC**

ATTACHMENT 6:	1414-TRP Analysis Sheet
ATTACHMENT 7:	1696-TRP Analysis Sheet
ATTACHMENT 8:	1702-TRP Analysis Sheet
ATTACHMENT 9:	1747-TRP Analysis Sheet
ATTACHMENT 10:	1767-URP Analysis Sheet



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## MINUTES

### RESEARCH ADMINISTRATION COMMITTEE JUNE 26, 27, & JULY 1, 2015

#### **MEMBERS PRESENT:**

Donald Bivens, Chair  
Carl Huber, *Vice-Chair*  
Pradeep Bansal, *Chair RAS*  
Kishor Khankari, *Chair RPS*  
Arthur Giesler, *RL Section 1.0*  
Harvey Sachs, *RL Section 2.0*  
Mark Spatz, *RL Section 3.0*  
Xudong Yang, *RL Section 4.0*  
David John, *RL Section 5.0*  
Stephen Hancock, *RL Section 6.0*  
Philip Haves, *RL Section 7.0*  
David Yashar, *RL Section 8.0*  
John Shonder, *RL Section 10.0*  
Xudong Wang, *Consultant AHRTI*  
Hywel Davies, *Consultant CIBSE*  
Daniel Int-Hout, *BOD Ex-Officio*  
Bjarne Olesen, *Coordinating Officer*

#### **GUESTS:**

Shinsuke Kato, *Incoming RL Section 1.0*  
Pawel Wargocki, *Incoming RL Section 2.0*  
Christopher Wilkins, *Incoming RL Section 8.0*

#### **ASHRAE STAFF:**

Claire Ramspeck, *DOT*  
Michael Vaughn, *MORTS*  
Donna Daniel, *COORD*

#### **MEMBERS ABSENT:**

Jeff Gatlin, *RL Section 9.0*

#### **A. CALL TO ORDER**

Chair Bivens called the meeting of the committee to order at 1:00 pm, Friday, June 26th.

#### **B. ASHRAE CODE OF ETHICS**

The ASHRAE Code of Ethics is to be adhered to by those doing ASHRAE business whether or not they are an ASHRAE member. The link will below will be provided on future agendas  
<https://www.ashrae.org/about-ashrae/adhvae-code-of-ethics>

#### **C. ADDITONS AND/OR CHANGES TO THE AGENDA**

Add co-funding request from FGI & ASHE for research related to ASHRAE Standard 170.

#### **D. NEW ACTION ITEM TRACKING**

Mr. Huber and staff volunteered to track new actions items.

## **E. APPROVAL OF MINUTES**

It was moved and seconded that,

- (1) Minutes for the RAC 2015 winter & spring web meetings were approved as drafted.

**MOTION PASSED:** 12-0-0 CNV (Unanimous voice vote)

## **F. CHAIR'S REPORT**

- a) Disposition of Motions from Last Meeting – All motions passed at higher levels.
- b) New & On-going Action Items Assigned by Tech. Council
  1. Develop Posted Presentation Targeted to Potential RP Bidders
  2. Going forward, RAC to provide two separate reports to TechC.
    - i. Regular Information
    - ii. Executive Session Information

**Action #1** < Staff >: Update RAC Reference Manual to capture new RAC executive session report implemented by TechC.

3. RAC to review how background information is written to clarify motion, especially when finances are mentioned.

- c) Briefing on Technology Council Pre-Meeting – June 15, 2015 – **Attachment #1**

- d) New Information Items
  1. Co-funding request from ASHE & FGI for research related to ASHRAE Standard 170
  2. RP-1646 “No” vote justification on draft final report
  3. Status report on grant to develop ASHRAE database II for thermal comfort
  4. Interested Member Letter concerning RP-1455 & TRP-1746

**Action #2** < Vaughn >: Take excerpts from the interested members' letter and send to TC 1.4 for clarification & response before RAC considers 1746-TRP for award. **Completed – 6/27/15**

5. Update on efforts to develop an on-line searchable database of ASHRAE research projects since 1960.

**Action #3** < Staff >: Send link to TC Research Subcommittee Chairs to test new research database once populated with data from 100 recent projects.

## **G. BOD EX-OFFICIO & COORD. OFFICER – INT-HOUT & OLESEN**

Mr. Int-Hout and Mr. Olesen both addressed RAC and thanked them for their work, leadership, and commitment to ASHRAE research.

**H. REVIEW PAST MEETING ACTION ITEMS**

**SPRING 2015 MEETING ACTION ITEMS  
Research Administration Committee (RAC)**

<b>Action #</b>	<b>Responsibility</b>	<b>Summary of Action</b>	<b>Status Updates</b>
1	Bansal, Haves, Sachs, Giesler	Incorporate approved URP process framework changes into Research Manual and possibly RAC MOP & RAC Reference Manual as required so that RAC can approve in Atlanta	Closed Replaced by new AI #4
2	Khankari, Bansal, Vaughn	Incorporate approved staged funding concept into Research Manual and possibly RAC MOP & RAC Reference Manual as required so that RAC can approve in Atlanta	Closed Replaced by new AI #5
3	Staff	Insert table to list project milestones into new WS template	Complete
4	Staff	Try to get feedback from TC 1.4 Chair on co-funding CIBSE Cyber Security project prior to Atlanta meeting	Complete

**CARRY-OVER CHICAGO MEETING ACTION ITEMS AND MBOs  
Research Administration Committee (RAC)**

<b>Action #</b>	<b>Responsibility</b>	<b>Summary of Action</b>	<b>Status Updates</b>
2	Giesler, Gatlin, Yashar	Changes to GIA program (part of award for expenses for attending ASHRAE winter and/or summer meetings)	Closed Replaced by new AI #6
6	Bivens, Giesler	Explore how cost estimates in RTAR/WS can be improved.	Closed
8	Huber, Shonder, Khankari, Int-hout	RAC subcommittee formed to investigate additional lessons learned and changes needed relative to RP-1603	Closed Replaced by new AI #7
10 <b>MBO 1.2</b> (14-15)	Khankari	Improved efficiency of RAC and TCs: schedule Atlanta forum	Complete

**CARRY-OVER CHICAGO MEETING ACTION ITEMS AND MBOs  
(CONTINUED)**

<b>Action #</b>	<b>Responsibility</b>	<b>Summary of Action</b>	<b>Status Updates</b>
11	Huber, Bivens, Haves, Yashar	PMS training module; training session during Atlanta Research Subcommittee breakfast meeting; revisions to PMS section of Research Manual for improved understanding of PMS duties (a check list?), consider developing cheat sheet for PMS	Closed Replaced by new AI #8
12	Haves, Davies	Potential co-funding cyber-security research project with CIBSE. Need to identify TC or TG group for involvement (TC1.4 or TG2)	Complete
13 <b>MBO 2.2</b> (14-15)	Davies, Wang	Review co-funding prospects from CIBSE & AHRTI	Closed Replaced by new AI #9
14	Sachs, Huber, Staff	Research Manual revisions: more detailed process for research proposals that result in ASHRAE special pubs.	Closed Replaced by new AI #10
15	Shonder	Explore if section on research involving human subjects in the Research Manual should be reviewed and/or enhanced. Currently, there is very brief mention. (Related to discussion of 1649-WS).	Complete
17	Sachs/Hancock	Explore formation of an MTG to look into issues presented in 1752-RTAR. Sachs would draft a couple paragraphs defining issue. TC 6.8 would be invited and as would other equipment TCs.	Complete  MTG.ASEC formed
18 <b>MBO 2.3</b> (14-15)	Bivens/Vaughn	Website presentation targeted to potential overseas bidders	Complete
19	Staff	Feasibility of (1) website project suggestion box to improve connection between RAC & members, & (2) collect information on those downloading for free or buying final reports for ASHRAE projects	Closed for now.  Waiting for staff capacity to become available
21	Staff	Provide stats on how quickly projects get through various steps and to actual RP. To identify where hold ups tend to take place.	Complete

**CARRY-OVER CHICAGO MEETING ACTION ITEMS AND MBOs  
(CONTINUED)**

<b>Action #</b>	<b>Responsibility</b>	<b>Summary of Action</b>	<b>Status Updates</b>
23	Staff	Send list of titles of all URPs to RAC for quick summary.	Complete
26 <b>MBO 1.1</b> (14-15)	Bivens, Yashar, Vaughn	Develop appeal process for PES/PMS members or others interacting with RAC	Complete
27 <b>MBO 2.5</b> (14-15)	RAC EXCOM	Plan formation of new Research Advisory Panel	Complete
28 <b>MBO 2.4</b> (14-15)	RAC EXCOM	With presidential ad hoc committee, develop information on impact & benefits of ASHRAE Standards & Technology	Closed Replaced by new AI #11 & #12
29	Haves, Yang, Khankari	Develop a more defined process for software upgrade projects; i.e. there should be fast track approach to link this back to the original project. Should it go out to bid or be single sourced to the original software developer? Make recommendations as an Ad Hoc Committee.	Closed Replaced by new AI #13

**Action #4** < Khankari, Haves, Sachs, Giesler >: Further develop the new URP process framework and incorporate approved changes into Research Manual and possibly RAC MOP & RAC Reference Manual as required so that RAC can approve in Orlando.

**Action #5** < Khankari, Vaughn >: Incorporate approved staged funding concept into Research Manual and possibly RAC MOP & RAC Reference Manual as required so that RAC can approve in Orlando.

**Action #6** < Giesler, Gatlin >: Finalize proposed changes to GIA program (part of award for expenses for attending ASHRAE winter and/or summer meetings) for RAC consideration and vote.

**Action #7** < Huber, Shonder, Khankari, Int-Hout >: Complete 'Lessons Learned' Report on RP-1603 termination process for TechC fall meeting

**Action #8** < RAS >: PMS training module webinar (recorded); revisions to PMS section of Research Manual for improved understanding of PMS duties (a check list?), consider developing cheat sheet for PMS

**Action #9** < Davies, Wang >: Develop possible project co-funding prospects from CIBSE & AHRTI

**Action #10** < Sachs, Huber, Vaughn >: Research Manual revisions: more detailed process for research proposals that result in ASHRAE special pubs.

**Action #11** < RAC EXCOM >: With presidential ad hoc committee, develop information on impact & benefits of ASHRAE Standards & Technology - MTG.IAST proposal in works – **MBO 2.1** (15-16)

**Action #12** < Sachs, Davies >: Provide information on potential consultants, example statement-of-work, and more information on ISO/TC 257 (Evaluation of energy savings) in order to help support MTG.IAST effort – **MBO 2.1** (15-16)

**Action #13** < Haves, Yang, Khankari >: Develop a more defined process for software upgrade projects; i.e. there should be fast track approach to link this back to the original project. Should it go out to bid or be single sourced to the original software developer? Make recommendations as an Ad Hoc Committee. How can we make project deliverables more accessible and useful to members? – **MBO 1.2** (15-16)

**Action #14** < Staff >: Check to see if Standards' Appeal Process published in Standard MOP or Reference Manual – Answer: Neither, standards appeal process published in PASA (Procedures for ASHRAE Standards Actions) – **COMPLETED** – Answer: Neither, standards appeal process published in PASA (Procedures for ASHRAE Standards Actions)

## **I. RTAR REVIEW**

RAC reviewed a total of nine RTARs submitted by TC/TGs for addition to the Society's Research Implementation Plan. Five were accepted with comments and four were rejected. The status of the RTARs after RAC review is provided below.

(2) It is moved and seconded that,

1703-RTAR, Performance of Vapor Retarder Systems Used on Mechanical Insulation; sponsored by TC 1.8 (Mechanical Systems Insulation), be accepted with comments.

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

(3) It is moved and seconded that,

1759-RTAR, Impact of Air-Flow on Thermal Performance of Air-spaces Behind Cladding (Phase 1 of 2); sponsored by TC 4.4 (Building Materials and Building Envelope Performance) be accepted.

**MOTION PASSED:** 12-0-0, CNV

(4) It is moved and seconded that,

1761-RTAR, Modeling Heat and Moisture Transport in Mechanical Insulation Systems on Below Ambient Insulated Pipes; sponsored by TC 1.8, (Mechanical Systems Insulation) be rejected.

**MOTION RPS PASSED:** 5-0-0, CNV

(5) It is moved and seconded that,

1762-RTAR, Update the ASHRAE Design Guide for Combustion Turbine Inlet Air Cooling Systems Published in 1999; sponsored by TC 1.10 (Cogeneration System) be accepted.

**MOTION PASSED:** 12-0-0, CNV

(6) It is moved and seconded that,

1763-RTAR, *Development of an Improved Toolkit for Analyzing Building Energy Use from Time Series Data: Update to the Inverse Model Toolkit (RP-1050.*; sponsored by TC 4.7 (Energy Calculation); be accepted with comments.

**MOTION PASSED:** 12-0-0, CNV

(7) It is moved and seconded that,

1764-RTAR, *Determine the Absolute Roughness for Phenolic Duct Board and Loss Coefficient for a Rectangular Radius Elbow*; sponsored by TC 5.2 (Duct Design); be accepted with comments.

**MOTION PASSED:** 12-0-0, CNV

(8) It is moved and seconded that,

1768-RTAR, *Assessment of HVAC Equipment Idle Power Consumption as a Percentage of Built Environment Energy Load*; sponsored by TC 1.11 (Electric Motors and Motor Control); be accepted with comments.

**MOTION PASSED:** 11-1-0, CNV

(9) It is moved and seconded that,

1769-RTAR, *Experimental Evaluation of the Efficiency of V-Belt Drives used on Fans*; sponsored by TC 5.1, (Fans); be rejected.

**MOTION PASSED RPS:** 5-0-0, CNV

(10) It is moved and seconded that,

1773-RTAR, *Ignition Potential from Electrical Devices in Commercial and Residential Applications using 2L Refrigerants*; sponsored by TC 3.1, (Refrigerants and Secondary Coolants); be accepted.

**MOTION PASSED:** 12-0-0, CNV

**STATUS OF OTHER RTARS THAT WERE UP FOR CONSIDERATION AT THIS MEETING:**

No action was taken on 1760-RTAR, *Updating Clothing Insulation Database for Western Clothing Ensembles, including Data on the Effect of Body and Air Movement on that Insulation*; Responsible Committee: TC 4.2 (Climatic Information) RAC Vote Postponed. TC to work with ASHRAE staff to clarify TC vote count.

**Action #15** < Staff >: Add a "Request for feedback" section to bottom of RTAR & WS forms so we can collect TC feedback on process while it fresh in RTAR & WS author's mind



## **J. WORK STATEMENT REVIEW**

Eight work statements were submitted to RAC. Four were approved as-is, one was accepted with comments, two were rejected, and one returned with comments.

(11) It is moved and seconded that,

1666-WS, Experimental Evaluation of the Thermal and Ventilation Performance of Stratified Air Distribution Systems Coupled with Passive Chilled Beams; sponsored by TC 5.3, (Room Air Distribution); be accepted.

**MOTION PASSED:** 12-0-0, CNV

(12) It is moved and seconded that,

1675-WS, Guidance for CFD Modeling of Data Centers; sponsored by TC 4.10, (Indoor Environmental Modeling), Co-sponsored by 9.9, (Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment); be accepted.

**MOTION PASSED:** 12-0-0, CNV

(13) It is moved and seconded that,

1711-WS, Advanced Sequences of Operation for HVAC Systems – Phase II Central Plants and Hydronic Systems; sponsored by TC 1.4, (Control Theory and Application); be accepted.

**MOTION PASSED:** 12-0-0, CNV

(14) It is moved and seconded that,

1729-WS, Experimental Verification of Cooling Load Calculations for Radiant Systems; sponsored by TC 4.1, (Load Calculation Data and Procedures); be conditionally accepted.

**MOTION PASSED RAS:** 11-1<sup>1</sup>-0, CNV

(15) It is moved and seconded that,

1734-WS, Reproducing a Representative Urban Atmospheric Aerosol Distribution at High Concentration in the Laboratory for Air Filter Ageing; sponsored by TC 2.4, (Particulate Air Contaminants and Gas Contaminant Removal Equipment), Co-sponsored by SSPC 52.2, (Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency by Particulate Size); be rejected.

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

(16) It is moved and seconded that,

1741-WS, Understanding Fan Coil Components and How They relate to Energy Consumption and Energy Modeling; sponsored by TC 5.3, (Room Air Distribution), Co-sponsored by 7.7, (Testing and Balancing); be returned.

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

(17) It is moved and seconded that,

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<sup>1</sup> Kishor Khankari voted against this work statement because of ventilations concerns.

1758-WS, *CFD Modeling and Laboratory Testing of Flat Oval Diverging Tees to Determine Loss Coefficients*; sponsored by TC 5.2, (Duct Design); be rejected.

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

(18) It is moved and seconded that,

1771-WS, *Energy Modeling of Typical Commercial Buildings in Support of the ASHRAE Building Energy Quotient Rating System*; sponsored by bEQ, (*Building Energy Quotient Rating System*); co-sponsored by 7.6, (Building Energy Performance); be accepted

**MOTION PASSED:** 12-0-0, CNV

#### **K. CONSULTANTS REPORT**

- a) AHRTI- see AHRTI report submitted by Xudong Wang – **Attachment #2**
- b) CIBSE – Hywel Davies **Attachment #3**
- c) IAQA – Update on efforts to identify a consultant from IAQA - Bivens

#### **L. RESEARCH SUBCOMMITTEE CHAIR’S BREAKFAST**

- a) Time/Location: Mon., 6:30 to 8 a.m., Grand Ballroom A/B – 2nd Level – Atlanta Hilton Hotel
- b) Proposed Announcements:
  - 1. New Project Milestone funding concept
  - 2. Forum 3 – Is the ASHRAE Research Process Efficient – Monday 11 am

**Action #16** < Staff >: Compile notes from RAC Forum on Process Efficiency and distribute to RAC for review

- 3. Plan to synchronize 2014 ASHRAE Strategic Plan & 10-15 Research Strategic plan (RSP)
  - New emphasis on residential research in RSP
- 4. PMS Chair training workshop
- 5. Additional Announcements (TBD)
- c) RL Reminders for TCs

#### **M. PLANS FOR FY 15-16 SOCIETY YEAR**

- a) Thank the chair and members rolling-off RAC (Bivens, Bansal, Hancock, Yashar)
- b) Introduce new members of RAC
  - 1. Shinsuke Kato, Section 1 – Mentor: Giesler
  - 2. Pawel Wargocki, Section 2 – Mentor: Sachs
  - 3. Chris Wilkins, Section 8 - Mentor: Spatz
  - 4. H. Ezzat Khalifa, Section 10 – Mentor: Shonder
- c) New RAC Member Training – early August Web session prior to fall meeting?
- d) Review new assignments & positions for RAC members
- e) Fall Meeting 2015? – Need to meet before TechC meets on 10/19/15
- f) Review SY 15-16 RAC MBOs - **Attachment #4**

#### **N. MORTS REPORT**

MORTS Semi Annual Report - Highlights from the report were discussed and the report is included as **Attachment #5**

#### **O. UNFINISHED BUSINESS**

None

RAC MEETNG RECESSED UNTIL 7 AM, WEDNESDAY, JULY 1

RAC MEETNG RECONVENED AT 7 AM, WEDNESDAY, JULY 1

## **P. TENTATIVE RESEARCH PROJECTS**

(19) It is moved and seconded that,

**1414-TRP**, *Update of U-factors, Solar Heat Gain Coefficients and Visible Transmittances of Standard Fenestration Units made from Representative Fenestration Frame and Glazing Systems in the Fenestration Chapter of the Handbook of Fundamentals*, be awarded to Design Builder Software, for a period of 15 months at a total cost to ASHRAE of \$79,000. **Attachment #6**

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

(20) it is moved and seconded that,

**1696-TRP**, *Thermal, Moisture and Air Transport Property Values for New Building and Insulating Materials*, be awarded to Building Science Consulting, Inc., for a period of 36 months at a total cost to ASHRAE of \$197,075. **Attachment #7**

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

(21) It is moved and seconded that,

**1702-TRP**, *Case Studies to Test Performance Measurement Protocols*, be awarded to University of Wyoming, for a period of 24 months at a total cost to ASHRAE of \$160,701. **Attachment #8**

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

(22) It is moved and seconded that,

**1747-TRP**, *Implementation of RP-1547 CO<sub>2</sub>-based Demand Controlled Ventilation for Multiple Zone HVAC Systems in Direct Digital Control Systems*, be awarded to University of Alabama, for a period of 18 months at a total cost to ASHRAE of \$173,738. **Attachment #9**

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

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

**1614-TRP**, *Developing a Test Method to Determine the Effectiveness of UVC Systems on Commercial Cooking Effluent*; Responsible Committee: TC 5.10 (Kitchen Ventilation). Status: TC 5.10 (Kitchen Ventilation) rejected the two bids received for this project and instead will rebid the project with a revised and clarified work statement in the near future.

**1705-TRP**, *Investigation of Airside Fouling on Outdoor Heat Exchangers*; Responsible Committee: TC 8.4 (Air-to-Refrigerant Heat Transfer Equipment); Co-Sponsors: TC 8.11 (Unitary and Room Air Conditioners and Heat Pumps); Co-funding: None Status: TC still evaluating bids received.

**1740-TRP**, *Hydrogen Fluoride Capacity of Desiccants*; Responsible Committee: **TC 3.3** (Refrigerant Contaminant Control); Co-Sponsor: TC 3.2 (Refrigerant System Chemistry); Status: TC 3.3 rejected the single bid received for this project and instead will rebid the project with a revised work statement in the near future.

**1746-TRP**, *Validation of RP-1455 Advanced Control Sequences for HVAC Systems – Air Distribution and Terminal Systems*; Responsible Committee: TC 1.4 (Control Theory and Application)  
Status: TC still evaluating bids received.

#### **Q. UNSOLICITED RESEARCH PROPOSALS**

(23) It is moved and seconded that,

**1767-URP**, *Moist Air Transport Properties Research*, be awarded to Kretschmar Consulting Engineers, for a period of 18 at a total cost to ASHRAE of \$49,000. **Attachment #10**

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

#### **STATUS OF OTHER UNSOLICITED RESEARCH PROPOSALS THAT WERE UP FOR FUNDING CONSIDERATION AT THIS MEETING:**

**1766-URP**, *Additions to the Radiant Panel Evaluator Module for the Simulation and Analysis of Radiant Systems (RP-1383+)*; Evaluating & Possible Responsible Committee: TC 6.5 (Radiant Heating and Cooling)  
Status: TC still evaluating URP received.

**1770-URP**, *Building-Integrated Photovoltaic/Thermal (BIPV/T) System Coupled to an Air-Source Heat Pump*; Responsible Committee: RAC (Research Administration Committee)  
Status: RAC rejected this topic for funding as an unsolicited research proposal (URP) given the funding amount requested and instead will encourage proposer to work with appropriate ASHRAE TCs to develop the topic for solicitation and then to bid on the project with others.

**1772-URP**, *Evaluation of Contaminants of Concern and Contaminant Removal Technologies in Commercial Buildings*; Responsible Committee: RAC (Research Administration Committee)  
Status: RAC rejected this topic for funding as an unsolicited research proposal (URP) given the funding amount requested and instead will encourage proposer to work with appropriate ASHRAE TCs to develop the topic for solicitation and then to bid on the project with others.

**Action #17** < Staff >: Post to the ASHRAE website that Unsolicited Research Proposals procedures are being updated and URPs submissions are on hold until further notice.

#### **R. RESEARCH LIAISON SECTION REPORTS**

RL section reports are included as **Attachment #11**

#### **S. UNFINISHED BUSINESS**

None

#### **T. NEW BUSINESS**

(24) It is moved and seconded that,

RAC approves MORTS to negotiate up to \$25k with CIBSE to co-fund the pilot project as accepted by TC 1.4, Control Theory and Application, related to Guideline 13 and Guideline 29.

**MOTION PASSED**: 11-0-1<sup>2</sup> CNV

Certificates of Appreciation were given to RAC members rolling-off committee, Donald Bivens, Stephen Hancock, David Yashar and Pradeep Bansal.

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<sup>2</sup> Pradeep Bansal abstained from voting.

**ADJOURNED**

The meeting of the Research Administration Committee adjourned at 11:00 AM, Wednesday, July 1, 2015.