



1791 Tullie Circle, N.E./Atlanta, GA 30329
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TC/TG/MTG/TRG MINUTES COVER SHEET

(Minutes of all Meetings are to be distributed to all persons listed below within 60 days following the meeting.)

TC/TG/MTG/TRG No. TC 7.7 DATE Jan 22, 2018

TC/TG/MTG/TRG TITLE TESTING AND BALANCING

DATE OF MEETING Jan 22, 2018 LOCATION Palmer House Hilton Hancock Room

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Tom Cappelin	2015	Jim Kelleher	2017	Justin Garner
Byron Hagan	2016	Lloyd Le	2015	Frank Spevak
John Hamilton	2015			Gerald Kettler
Mark Hegberg	2017			Gus Faris
Robert Moss	2017			Jason Hauska
Donald Prather	2015			Michael Langton
Richard Rose	2016			Solomon Yin
Tom Schlachter	2017			Darryl Deangelin
				Nick Good
				Bottdan Fedyk
				Gaylon Richardson

DISTRIBUTION: All Members of TC/TG/MTG/TRG plus the following:

TAC Section Head	Sarah Matson	sarah@greenfootprintscx.com
TAC Chair	Kelly Cramm	kelly.cramm@hendersonengineers.com
ALI / PDC Liaison	James W Bochat	jim.bochat@cxconcepts.com
Chapter Tech Transfer Chair	David Ballard	daballard21@gmail.com
2019 HVAC Applications	Bryan Becker	beckerb@umkc.edu
Research Liaison	Christopher Wilkins, PE	chris.wilkins@crbusa.com
Standard Liaison	Rick Heiden	rheiden@trane.com
Manager of Standards	Stephanie Reiniche	sreinichie@ashrae.org
Staff Liaison	Mike Vaughn	MORTS@ashrae.net

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

DRAFT MINUTES
TC 7.7 TESTING AND BALANCING
ANNUAL CONFERENCE
MONDAY – January 22, 2018 (2:15 – 4:15 pm)
Palmer House Hilton Room – Hancock
Chicago, IL

1. CALL TO ORDER

Chairman Prather asked all guests to provide contact information on one of the sign-in sheet that was being passed around.

- Attendance: 8 of 10 voting members present – quorum is present
- Chairman read the ASHRAE Code of Ethics

2. INTRODUCTIONS

Chairman Prather asked those attending to introduce themselves and identify the organization or company they represent.

3. APPROVE MINUTES FROM LAST MEETING

Minutes from the Long Beach meeting were passed out. After a brief discussion, a motion to accept the minutes as presented was made by Mr. Rose and seconded by Mr. Schlachter. The motion passed 8-0-0

4. RECOGNIZE LIAISONS

None Present

5. DISCUSS ISSUES FROM TC BREAKFAST

Chairman Prather briefly covered the information provided at the TC Chairman's breakfast, (See attached handout). Mr. Prather announced Sarah Matson as new section chair.

6. SUBCOMITTEE REPORTS

A. Handbook - Mark Hegberg

Discussion between Mr. Garner and Mr. Hegberg concerning meeting publication deadline. Deadline is May 10th.

B. Program - Tom Schlachter

- See attached Program Sub-Committee Report Handout
- Several Papers submitted and rejected without cause
 - Proposal to use seminars attached to committee meetings
 - There was some concern these meetings are not recorded and some members use these for training purposes

C. Membership – Donald Prather

Chairman Prather reported current voting members are:

Thomas Cappelin, Byron Hagan, John Hamilton, Mark Hegberg, Robert Kelleher, Lloyd Le, Donald Prather (chair), Robert Moss (secretary), Richard Rose, and Thomas Schlachter (vice-Chair).

D. Research - Frank Spevak

See attached Program Sub-Committee Report Handout

- TC 7.7 is currently cosponsor, along with TC 5.3, of RP-1741, "Understanding Fan Coil Components and How They Relate to Energy Consumption and Energy Modeling"
- No new RTARS

E. Journal - Justin Garner

Mr. Faris submitted 3 articles for the Journal.

F. Standards

STD 111 - Gaylon Richardson

STD 111 is still in progress

GPC 11 - Tom Schlachter

GPC 11 completed and sent forward to be published.

G. Education – Justin Garner

No volunteers; may remove this item from future agendas.

H. Web Master – Aldin Andrade

Mr. Prather reported that the web is up to date.

7. LIASON REPORTS FROM OTHER TC'S OR ORGANIZATIONS

TC 1.2 Instruments & Measurements - Frank Spevak

No new information to report; TC seminar tomorrow.

TC 1.4 Control Theory & Application - David Bornside

Liaison not present; no other report

TC 5.2 Duct Design – Gus Farris

Design guide is not finished; Meeting is tomorrow.

TC 5.3 Room Air Distribution - Byron Hagan & Gus Farr Byron Hagan

- See above noted on RP-1741
- Work on VAV design guide is continuing; Committee members watch for reviews.

TC 5.6 Control of Fire & Smoke - Gerald Kettler

- Mr. Felker discussed his concern over lack of periodic testing.
- Mr. Felker plans to go metro by metro to conduct an informal survey and requested assistance from TC 7.7

TC 6.1 Hydronic & Steam Heating Equipment & Systems - Don Prather

Meets Tuesday @ 1:00pm

TC 7.9 Building Commissioning - Gerald Kettler

- Updating ASHREA certification.
- Republishing standard 2.02
- TC 1.5 & 1.6 are developing guidelines on data centers

TC 9.10 Laboratory Systems - Lloyd Lee

Nothing new to report

(LIASON REPORTS FROM OTHER TC'S OR ORGANIZATIONS...continued)

AABC – Gaylon Richards

AABC is positioning courses to gain ANSI certification

NEBB – Richard Rose

Seeking ANSI certification. Focused on Web training.

SMACNA – Eli Howard;

Not present, no other report

ACCA – Don Prather

No report

TABB – John Hamilton

Nothing to report

8. OLD BUISNESS

No old Business was discussed.

9. NEW BUISNESS

- Mr. Garner led a discussion about an article published in the Dec 2017 addition of the ASHREA Journal entitled, “Doubling Down on NOT Balancing Variable Flow Hydronic Systems” by Steven T. Taylor, P.E., Fellow ASHREA.
 - Concerns were voiced about the lack of reviews of these articles and the potential impact of this particular article on the HVAC community.
 - A subcommittee of Mr. Garner, Mr. Hegberg, and Mr. Schlachter volunteered to write a letter to the editor and a rebuttal to the article.
 - The letter and rebuttal to be reviewed and voted on by TC 7.7
- Discussed possible submission of technical paper for the 125 anniversary of ASHREA on the early articles on hydronic balancing by Gill Carlson

10. ADJOURN

Motion to adjourn was made @ 3:30pm by Mr. Rose, second by Mr. Hegberg and accepted by committee consensus.

NEXT MEETING:

Houston, TX

Monday June 25, 2018 2:15 – 4:15 pm

TC 7.7 – Program Report
January 22, 2018 – Chicago
Tom Schlachter

Program subcommittee met Saturday morning @ 8:00 am. This is new time that was selected by Chairman Prather to find a time that will meet others schedule and increase participation

We discussed the following:

1. For Chicago we submitted again Garners seminar regarding Lab Tracking Controls regarding Blade vs Venturi.
 - Co-sponsored by TC 9.10
 - Submitted under Track: Systems & Equipment
 - ASHRAE reported the program scored well
 - Very many programs scored submitted with high scores under this track
 - Unfortunately our program was not selected
 - We were urged to apply again
 - Urged to contact Track & Program Chair's for Houston

2. Consideration to present Blade vs Venturi as a program as part of the TC meeting

3. Response to the recent Journal article recommending not balancing water systems.
 - Rebuttal Seminar
 - Letter to the editor from the TC

For information on the technical program, special events, special sessions and general conference inquiries. **Conference Program Chair: Cindy Moreno** Email: cindym@tmmechanical.com

Staff Support Tiffany D. Cox, Assistant Manager of Conference Programs Email: tcx@ashrae.org

- Thursday, January 11, 2018: Website Opens for Seminar, Workshop, Forum, Debate and Panel Proposals
-
- Monday, January 15, 2018: Conference Paper Accept/Revise/Reject Notifications
-
- Friday, February 9, 2018: Program (Seminar, Forum, Workshop, Debate and Panel) Proposals Due
-
- Friday, February 9, 2018: Revised Conference Papers/Final Technical Papers Due
-
- Monday, February 19, 2018: Conference and Technical Paper Final Accept/Reject Notifications
-
- Tuesday, March 1, 2018: Registration Opens
-
- Monday, March 19, 2018: Seminar, Forum, Workshop Accept/Reject Notifications
-
- Monday, April 30, 2018: Upload of PPTs Begin
-
- Friday, June 1, 2018: All PPTs Due Online
-
- Wednesday, June 20, 2018: Final Day for Commercialism Revision Upload prior to on-site
-
- Saturday, June 23, 2018: Speaker's Lounge Opens
-
- **Conference begins (June 23 – 27, 2018)**

Track 1: HVAC&R Systems and Equipment

Track Chair: Frank Schambach Email: frankschambach@mindspring.com

Selection of equipment and systems is paramount to HVAC&R design. Papers and programs in this track will assist designers, engineers, and operators in the design, selection, and operation of HVAC&R systems and equipment.

Track 2: Fundamentals and Applications

Track Chair: Dennis Alejandro **Email: denzjac@yahoo.com**

Fundamentals are the foundation for understanding applications in engineering. Key components of ASHRAE fundamentals include thermodynamics, psychrometrics, fluid and mass flow. This track provides opportunities for papers and presentations of varying levels across a large topic base. Concepts, design elements and shared experiences for theoretical and applied concepts of HVAC&R design are included.

Track 3: District Energy and Cogeneration Plants

Track Chair: Kimberly Pierson **Email: kdpwildcat@gmail.com**

As our world resources become more and more sparse there is an industry-wide movement toward efficiency and sustainability. One of the ways in which we can look to minimize our carbon footprint is to combine our resources. District energy systems and cogeneration plants do just that and are quite popular in some locales but have yet to gain traction in other developed cities. We will look at the advantages and limitations, do's and don'ts and best practices of utilizing this type of shared system.

Track 4: Safeguarding your HVAC&R System

Track Chair: Rich Rose **Email: richr@mticontrols.com**

From seismic events to power outages and human error, how secure is your HVAC&R System? Mechanical, plumbing, electrical, and control systems all work together to create our living buildings, so it is imperative that designers and operators take into account the reactivity and interaction of these systems in response to natural disasters, human interference and other catastrophic events. Topics in this track include considering your design layout and accessibility, backup systems, supports and bracing, and more.

Track 5: Residential - Modern Buildings in Hot and Humid Climates

Track Chair: Dimitris Charalambopoulos **Email: dimitris@ashrae.gr**

Residential dwellings require designers to consider a different scope of building functions, occupant use, and comfort. With increasing utility rates and a movement toward net zero housing, the traditional residential design models are continuously diversifying and evolving. This track will discuss how we can integrate modern residential design and building practices into hot and/or humid climates with specific challenges ranging from indoor comfort to ventilation and mold.

Track 6: Professional Skills

Track Chair: Kevin Marple **Email: kmarple@benzco.com**

This track is designed to provide professionals an opportunity to develop in the areas of presentation skills, leadership, teambuilding, understanding various business operations, interpersonal skills, etc. In short, the Professional Skills Track can cover all aspects of business outside of engineering/technical applications and lends itself to interactive session types such as workshops and forums.

Track 7: Research Summit

Track Chair: Melanie Derby **Email: derbym@ksu.edu**

Active research, and the exchange of those research findings are critical to the development of our HVAC&R industry and environment. The sixth annual research summit invites researchers to share those results; and this year we announce an exciting collaboration with ASHRAE's archival research publication, *Science and Technology for the Built Environment* (STBE). Researchers are invited to present papers, seminars, forums or participate in panel discussions. Authors may also pursue an opportunity to further develop their submissions for later publication in STBE

Track 8: HVAC&R Control Freaks

Track Chair: Gary C. Debes **Email: gcdebes@verizon.net**

This track will focus on all things controls (note: please see track 9 "MiniTrack" as well). We invite you to join this exchange addressing one of the most dynamic areas in HVAC&R. Topics may range from design innovations spreading through our industry to the latest in building integration and observation, or even troubleshooting the most common issues occurring in building management systems.

Track 9: HVAC&R Analytics

Track Chair: Vikrant Aute **Email: vikrant@umd.edu**

This track will focus on the application of analytics algorithms/tools to automate systems. The tools and data are readily available, but the challenge is in using them in a timely and effective manner to add value to our HVAC&R Systems. By discussing the basics of analytics, methods, case studies and lessons learned we can consider if machine learning is ready to replace conventional controls.

Notes from Research Subcommittee Chair Breakfast Chicago 2018

Respectfully submitted by Frank Spevak

The recipient of the Service to ASHRAE Research Award was presented to Brian Silveti of TC 6.7.

ASHRAE Research has increased the frequency of submissions for RTARs and Work Statements. Additional deadline is March 15 along with May 15, August 15 and December 15.

A Project Monitoring Subcommittee training webinar was held on November 1 and had 88 attendees. Another webinar will be scheduled for Spring 2018.

ASHRAE is looking to increase the technology transfer of research. Reminder that each research project requires a disposition form that asks what will happen to the research such as presentation, publication and more. Want more participation with CTTC and Research Promotion. ASHRAE Marketing team will try to provide help.

At this meeting-

2 RTARs considered – both accepted with comments

2 WS considered but both returned with comments

Voted to release 11 TRP on Sunday and will consider 4 more on Wednesday.

Awards –

The recipient for the Homer Adams award has been selected and will be announced soon

Selected 6 finalists for the Innovative Research Grant proposal

New investigator award will be reviewed and selected in the next few months as there were 40 proposals submitted

Reminders –

Full votes of sponsoring AND co-sponsoring TCs on RTARs and WS must be included on submission forms

PES and PMS need to ensure multi-disciplinary interaction – members from the co-sponsoring groups need to be represented

Conditionally approved RTARs must acknowledge how the conditions have been met

WS must include milestones that act as a stage gate process

THE RESEARCH & TECHNICAL ACTIVITIES REPORT

Michael R. Vaughn, P.E. FOR TC/TG/MTG/SSPC CHAIRS, VICE CHAIRS & Manager RESEARCH SUBCOMMITTEE CHAIRS
Research and Technical Services February 5, 2018

2018 WINTER MEETINGS

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

NEW PROJECTS AWARDED

The following three projects were approved for award as follows:

- **1733-RP**, *Develop Design Criteria for Psychrometric Air Sampler and Mixer Apparatus for Use in ASHRAE Test Standards*; Responsible Committee: TC 8.11 (Unitary and Room Air Conditioners and Heat Pumps); Co-Sponsors: None; Co-funding: None; Recommended Contractor: Oklahoma State University; Estimated Duration: 20 months; Cost to ASHRAE: \$144,249

- **1759-RP**, *Impact of Air-Flow on Thermal Performance of Air-Spaces behind Cladding (Phase 1 of 2)*; Responsible Committee: **TC 4.4** (Building Materials and Building Envelope Performance); Co-Sponsor: None; Co-funding: None; Recommended Contractor: Ecole Polytechnique Federale de Lausanne (EPFL) - Switzerland; Estimated Duration: 12 months; Cost to ASHRAE: \$23,498

- **1760-RP**, *Update of Clothing Database for Existing and new Western Clothing Ensembles, including Effects of Posture, Body, and Air Movement*; Responsible Committee: **TC 2.1** (Physiology and Human Environment); Co-Sponsor: None; Co-funding: None; Recommended Contractor: Loughborough University; Estimated Duration: 15 months; Cost to ASHRAE: \$168,669

NEW PROJECTS LED BY OTHER NON-PROFITS THAT ARE CO-FUNDED BY ASHRAE

- **Co-RP 5**, *ANSI/ASHRAE/IES Standard 90.1 Lighting Computer Modeling (Research Project)*; Responsible Organization: Illuminating Engineering Society (IES); Co-Sponsors: ASHRAE, BC Hydro, and International Association of Lighting Designers (IALD); Estimated Duration: 6 months; Cost to ASHRAE: \$25,000

PROJECTS THAT FAILED TO BE AWARDED

- **1840-URP**, *The Verification of Openings, the Limitation of Openings, Air distribution and Humidity Conditions in Naturally Ventilated Spaces to Compliment Section 6.4 of ASHRAE Standard 62.1*. Responsible Committee: RAC; Cost: \$105,600; Duration: 11 months.

Proposer of unsolicited research proposal will instead be encouraged to work jointly with SSPC 62.1 to develop a work statement on topic that can be solicited for bids if they wish to continue pursue topic further as a bidder.

PROJECTS STILL PENDING AWARD

- **1683-TRP**, *Experimental Evaluation of Two-Phase Pressure Drop and Flow Pattern in U-Bends with Ammonia*; Responsible Committee: **TC 1.3** (Heat Transfer and Fluid Flow); Co-Sponsors: TC 8.4; Co-funding: None; Estimated Duration: 30 months; Estimated Cost to ASHRAE: \$150,000; Status: Need Contractor recommendation and TC vote on *Summary Sheet for Reporting Proposal Evaluations* form from TC 1.3.

POTENTIAL PROJECTS FOR BID IN SPRING 2018

The following fifteen tentative research projects (TRPs) are expected to be released for bid or re-bid this spring if ready by March 8th:

Approved Work Statements Available for Possible Bid in spring 2018:

- **1579-TRP**, *Development of a Test Method to Determine the Effectiveness of UVC Systems on Commercial Cooking Effluent*; Responsible Committee: **TC 2.3** (Gaseous Air Contaminants and Gas Contaminant Removal Equipment); Co-Sponsors: EHC, SSPC 62.1; Co-funding: None; Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$191,000; Status: **Ready to Bid**.

- **1707-TRP**, *Annoyance Thresholds of Tones in Noise as Related to Building Services Equipment*; Responsible Committee: **TC 2.6** (Sound and Vibration); Co-Sponsors: TC 2.1 (Physiology and Human Environment); Co-funding: None; Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$150,000; Status: **Ready to Bid**.

- **1720-TRP** (Re-bid), *Validation of Gas Phase Air-Cleaner Performance Test Method (Standard 145.2) by Laboratory Testing of Commercially Available Filtration Devices*; Responsible Committee: **TC 2.3** (Gaseous Air Contaminants and Gas Contaminant Removal Equipment); Co-Sponsors: None; Co-funding: None; Estimated Duration: 24 months; Estimated Cost to ASHRAE: \$150,000; Status: **Ready to Bid**

- **1740-TRP** (Re-bid), *Hydrogen Fluoride Capacity of Desiccants*; Responsible Committee: **TC 3.3** (Refrigerant Contaminant Control); Co-Sponsors: None; Co-funding: None; Estimated Duration: 12 months; Estimated Cost to ASHRAE: \$150,000; Status: **Ready to Bid**

- **1769-TRP**, *Experimental Evaluation of the Efficiency of V-Belt Drives Used on Fans*; Responsible Committee: **TC 5.1** (Fan); Co-Sponsors: None; Co-funding: None; Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$120,000; Status: **Ready to Bid**

- **1778-TRP**, *Repeatability and Reproducibility Assessment of ASHRAE Standard 52.2 as Currently Amended*; Responsible Committee: **TC 5.10** (Kitchen Ventilation); Co-Sponsors: TC 4.1 (Load Calculation Data and Procedures); Co-funding: None; Estimated Duration: 24 months; Estimated Cost to ASHRAE: \$199,000; Status: **Ready to Bid**

- **1784-TRP-C**, *Validation of Gas Phase Air-Cleaner Performance Test Method (Standard 145.2) by Laboratory Testing of Commercially Available Filtration Devices*; Responsible Committee: **TC 2.4** (Particulate Air Contaminants and Particulate Contaminant Removal Equipment); Co-Sponsors: SSPC 52.2; Co-funding: None; Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$195,000; Status: **Work with RL to clear RAC approval conditions**

- **1789-TRP-C**, *Optical and Thermal Performance of Hollow Glass Block Units*; Responsible Committee: **TC 4.5** (Fenestration); Co-Sponsors: None; Co-funding: None; Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$130,000; Status: **Work with RL to clear RAC approval conditions**

- **1790-TRP**, *Distribution of Water Between Vapor and Liquid Phases of Low GWP Refrigerants*; Responsible Committee: **TC 3.3** (Refrigerant Contaminant Control); Co-Sponsors: None; Co-funding: None; Estimated Duration: 12 months; Estimated Cost to ASHRAE: \$150,000; Status: **Ready to Bid**

- **1794-TRP**, *White Paper Investigation Relating to the use of Odorants in Flammable Refrigerants*; Responsible Committee: **TC 3.1** (Refrigerant and Secondary Coolants); Co-Sponsors: None; Co-funding: None; Estimated Duration: 6 months; Estimated Cost to ASHRAE: \$25,000; Status: **Ready to Bid**

- **1800-TRP**, *Spray Evaporation on Enhanced Tube Bundles with Low GWP Pure Refrigerants and Refrigerant / Miscible Oil Mixtures*; Responsible Committee: **TC 1.3** (Heat Transfer and Fluid Flow); Co-Sponsors: MTG.LowGWP, TC 8.5 (Liquid-to-Refrigerant Heat Exchangers); Co-funding: None; Estimated Duration: 30 months; Estimated Cost to ASHRAE: \$185,000; Status: **Ready to Bid**

Approved Work Statements Available for Possible Bid in spring 2018: CONTINUED

• **1801-TRP**, *Populating and Utilizing ASHRAE On-Line BIM Data Content*; Responsible Committee: **TC 1.5** (Computer Applications); Co-Sponsors: MTG.BIM, TC 7.1 (Integrated Building Design); Co-funding: None; Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$125,000; Status: **Ready to Bid**

• **1814-TRP**, *Actual Energy Performance of Buildings designed to Comply with ASHRAE Standard 90.1-2010*; Responsible Committee: **TC 2.8** (Building Environmental Impacts and Sustainability); Co-Sponsors: TC 7.6 (Building Energy Performance); Co-funding: None; Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$200,000; Status: **Ready to Bid**

• **1819-TRP**, *CO₂ Demand Controlled Ventilation in Multiple Zone VAV Systems with Multiple Recirculation Paths*; Responsible Committee: **TC 4.3** (Ventilation Requirements and Infiltration); Co-Sponsors: None; Co-funding: None; Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$140,000; Status: **Ready to Bid**

• **1823-TRP**, *Improved Exhaust-to-Intake Dilution (Concentration) Calculations*; Responsible Committee: **TC 4.3** (Ventilation Requirements and Infiltration); Co-Sponsors: None; Co-funding: None; Estimated Duration: 12 months; Estimated Cost to ASHRAE: \$75,000; Status: **Ready to Bid**.

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 winter meeting. None were accepted-is, none were conditionally accepted, both were returned with comments. See below for the status of each project after this review.

Approved Work Statements: NONE

Work Statements Returned with Comments or Rejected:

• **1837-WS**, *The Effects of Ventilation on Sleeping Environments*; Responsible Committee: **TC 2.1** (Physiology and Human Environment); Co-Sponsors: None; Co-funding: None; Estimated Duration: 36 months; Estimated Cost to ASHRAE: \$200,000; Status: **Returned with comments**. Work with RL to make possible revisions to work statement before resubmitting it to RAC for review.

• **1839-WS**, *Investigation into Sensible Temperatures for Potable Hot Water Temperatures to Maximize Public Safety, Water and Energy Conservation*; Responsible Committee: **TC 3.6** (Water Treatment); Co-Sponsors: EHC; Co-funding: None; Estimated Duration: 9 months; Estimated Cost to ASHRAE: \$65k to \$85k; Status: **Returned with comments**. Work with RL to make possible revisions to work statement before resubmitting it to RAC for review.

A revised work statement for any of the returned projects listed above can be submitted to the MORTS on or before March 15, 2018 in order to be considered at RAC's spring meeting or on or before May 15, 2018 in order to be considered at RAC's Annual meeting in Houston, TX this June. If a work statement can't be revised that quickly, the next scheduled deadline for RAC consideration is August 15, 2018.

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. You can find a copy of the last draft submitted to RAC along with RAC's comments by clicking on the links in the Society's Research Implementation Plan posted on the "Research" page of the ASHRAE website. Please note that topics will be dropped from this plan if the work statement is not approved for bid after four years on the plan. The work statement forms that are now in use by RAC for Society year 2017-2018 can also be found on the "Research" page at www.ashrae.org/research

REVIEW OF RESEARCH TOPIC ACCEPTANCE REQUESTS (RTARs)

RAC reviewed a total of **two** RTARs at its winter meeting and **none** were accepted as-is, but **all** were accepted with comments for inclusion in the Society's Research Implementation Plan and for further development into work statements. The following is a listing of all RTARs reviewed:

Approved RTARs:

• **1841-RTAR**, *Round Robin testing to Validate ANSI/ASHRAE Standard 185.2-2014*

Responsible Committee: **TC 2.9** (Ultraviolet Air and Surface Treatment); Co-Sponsors: None; Status: **Accepted with comments**. Proceed with the development of the project's work statement with guidance and feedback from your RL. Prior to submitting the work statement to RAC, work with your RL to develop a response letter to RAC explaining how RAC's comments on the RTAR were addressed in the work statement, and if not, why?

• **1842-RTAR**, *Development of Cogen/Trigeneration Tools for Building Designers*

Responsible Committee: **TC 8.3** (Absorption and Heat Operated Machines); Co-Sponsors: TC 1.10 (Cogeneration Systems); Status: **Accepted with comments**. Proceed with the development of the project's work statement with guidance and feedback from your RL. Prior to submitting the work statement to RAC, work with your RL to develop a response letter to RAC explaining how RAC's comments on the RTAR were addressed in the work statement, and if not, why?

RTARs Returned or Rejected with Comments: None

If a TC wants to pursue a rejected topic further, we recommend the TC first review the RAC comments and then discuss scope and topic further with your RL before submitting a new RTAR.

The RTAR form that is now in use by RAC for Society year 2017-2018 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 March 15, 2018. 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

August 15 – RAC Fall meeting consideration in Sept. or Oct.

December 15 – RAC Winter meeting consideration in January

Therefore, if you get **MMAD** each year, you won’t be as frustrated with RAC.

SOCIETY RESEARCH IMPLEMENTATION PLAN

The Society Research Implementation Plan is now being updated following the winter 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 winter updates to the plan should be in place by **March 1, 2018** or sooner. Please review the latest draft of the Implementation Plan posted on the ASHRAE “Research” page to see if any topics your TC is sponsoring are in danger of being dropped from the plan.

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), Mike Vaughn, (morts@ashrae.net).

February 9, 2018 Submission deadline for program proposals (seminars and forums) for the 2018 Annual meeting in Houston, TX. Conference Website: <https://ashraem.confex.com/ashraem/s17/cfp.cgi>

February 9, 2018 Revised Houston Conference and Technical Papers Due

February 19, 2018 Conference & Technical Paper Final Accept/Reject Notifications for 2018 Annual meeting in Houston, TX sent by CEC.

February 20, 2018 Deadline for Program Track Suggestions to CEC for 2019 Annual Meeting in Kansas City, MO. – Send Suggestions to PRGstaff@ashrae.net

March 1, 2018 Houston Registration Opens

March 1, 2018 Applications for ASHRAE Graduate Student Grant in Aid program are due to (New Submission Date) MORTS@ashrae.net

March 15, 2018 **New or revised Work Statements and RTARs with TC vote are due to MORTS for RAC consideration at the 2018 RAC Spring meeting.** Also on this date, TRPs that will bid in the spring are posted for bid on this date.

March 19, 2018 Seminar, Forum, Workshop Accept/Reject Notifications for 2018 Annual meeting in Houston sent by Conferences & Expositions Committee (CEC)

March 25, 2018 TC/TG/TRG meeting minutes from the Chicago meeting are posted on TC website and distributed to membership by this date or sooner. Please make a special effort to meet this deadline. We have received complaints that many TC minutes are typically released just prior to the next Society meeting. Members outside of your committee are interested in your committee’s work.

April 6, 2018 **Completed TC/TG/TRG Meeting room request web forms for 2018 Annual meeting** are due to Lizzy Seymour (lseymour@ashrae.org) at ASHRAE HQ. A link to the form is posted now on the TC web page of the ASHRAE website. Subcommittee meeting rooms must be requested each meeting or they will be dropped automatically. Also, consider hosting some subcommittee meetings in the weeks prior to the Annual meeting via conference call and/or web meeting to free-up time and space at the Annual meeting or if quorum is a concern to assure continued progress on critical items. The new on-line Meeting Room request form should also be used to request Remote Participation Meeting (RPM) capability for Houston Meeting room. RPM capability will be assigned to the committees in greatest need if demand for RPM exceeds capacity. Lastly, **ASHRAE does NOT provide projectors**, but ASHRAE will provide a screen, table, and power for a **Members’ projector**, if requested on the Meeting room request web form

May 15, 2018 **New or revised Work Statements and RTARs with TC vote are due to MORTS for RAC consideration at the 2018 RAC Annual meeting.**

May 15, 2018 Bids are due for all TRPs released for bid in spring 2018.

May 24, 2018 TC/TG/TRG meeting agenda for the Houston meeting are posted on TC website and distributed to membership. Please make a special effort to meet this deadline. We have received complaints that many TC agendas are released just prior to the TC’s meeting.

June 1, 2018 Website opens for Seminar, Forum, Debate, Workshop, and Panel Discussion Proposals for winter meeting in Atlanta.

June 1, 2018 All PowerPoint presentations for the Houston meeting must be uploaded to ASHRAE website by this date for review.

June 23, 2018 ASHRAE 2018 Annual conference begins in Houston, TX

June 26th, 2018 Contractor recommendations are due to MORTS for all TRPs bid in spring

Midnight 2018. Place the Proposal Evaluation Summary sheet in MORTS lockbox outside ASHRAE Headquarters Room in Houston or e-mail to MORTS@ashrae.net

July 7, 2018 Final Chicago meeting Conference papers submitted for review.

July 24, 2018 Conference Paper Accept/Revise/Reject Notifications for 2019 Winter meeting in Atlanta, GA sent by CEC.

August 1, 2018 Seminar, Forum, Debate, Panel Discussion, and Workshop Proposals due for Atlanta meeting.

August 7, 2018 Revised Atlanta meeting Conference papers / Final Technical Papers due.

August 15, 2018 **New or revised Work Statements and RTARs with TC vote are due to MORTS for RAC consideration at the 2018 RAC Fall meeting.**

August 21, 2018 Conference & Technical Paper Final Accept/Reject Notifications for 2019 Winter meeting in Atlanta, GA sent by CEC.

September 7, 2018 Atlanta meeting Seminar, Forum, Debate, Panel Discussion, and Workshop Accept/Reject notifications sent by CEC.

December 14, 2018 All PowerPoint presentations for the Atlanta meeting must be uploaded to ASHRAE website by this date for review.

January 12, 2019 ASHRAE 2019 winter conference begins in Atlanta, GA

OTHER NEWS:

A. ANNOUNCEMENTS

1. 2017-2018 Hightower Award Recipient – Art Hallstrom TC 1.6

Mr. Hallstrom collected over 150 ASHRAE Glossaries in digital form and merge them into one excel file. Today this 1.6 working file has over 25,000 entries and uses both ASHRAE and external industry sources from related international organizations. TC 1.6 members use this working file in another subcommittee to select/develop harmonized terms and definitions that are published online in the ASHRAE wiki, now called ASHRAE Terminology. It contains about 4,500 terms and is used in the development of ASHRAE products and Industry publications. Over the last 24 months, Mr. Hallstrom has lead another effort to get the larger TC 1.6 working file on line in an SQL secure website. This would allow authors of any publication, paper, standard or guideline to view terms and definitions used all the terms and definitions used inside and external to ASHRAE.

The long-term dedication and effort of ASHRAE Fellow Arthur Hallstrom, in this important area of ASHRAE leadership, makes him an ideal candidate for the Hightower Award.

2. 2017-2018 Service to ASHRAE Research Award Recipient – Brian Silvetti, TC 6.9

During the last five years, Brian put great effort into RP-1607, which provided valuable research regarding Thermal Energy Storage (TES) supporting renewable (wind and solar) electrical generation assets. Brian took a good idea from the committee and worked hard to get the RTAR approved. Brian also wrote a strong WS that was evident by the number of quality bids. As PES chair, he led the selection of the contractor and he continued to lead as the project's PMS chair. Brian urged the contractor to make interim recommendations, which created great enthusiasm in the entire TC. That project is now complete and Brian is working to get that information out to all ASHRAE members. Under RP-1719, Brian is now leveraging RP-1607 results by leading the PMS to update the Cool Storage Design Guide

Mr. Silvetti's contributions to ASHRAE technical committees, and especially to TC 6.9 in the last four years, have been exemplary and make him a well deserving recipient of the Service to ASHRAE Research Award.

3. 2017-2018 Homer Addams Award Recipient – Parham Azimi for his work on RP-1615

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 Alireza Behfar from the University of Nebraska-Lincoln for his work on RP-1615 (Fault Detection and Diagnostic (FDD) Methods for Supermarkets – Phase I). 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.

4. New Title and Scope Change Approved for TC 1.10

TAC approved the following new title and scope statement for TC 1.10 (Cogeneration Systems):

TC 1.10 – Combined Heat and Power Systems Cogeneration Systems

Scope: TC 1.10 is concerned with combined heat and power (CHP) cogeneration systems, their cycles, and components including heat recovery, combustion turbine inlet cooling (CTIC), energy conversion, and system integration. The systems provide both power (electric and/or mechanical shaft) and thermal energy (heating and/or

cooling) and are variously known as cogeneration systems; trigeneration systems; combined heat and power (CHP); and combined cooling, heating, and power (CCHP). and integrated energy systems (IES). TAC is also working with TG 2.HVAC (Heating Ventilation and Air-Conditioning Security), whose scope includes Resiliency / Natural Preparedness, to become a full TC.

5. Joint Effort by CEC and TAC Underway to Develop the Houston Technical Program

Following-up on the successful joint effort last summer/fall to help develop the Society's 2018 Winter meeting technical program together, Conferences & Exposition Committee (CEC) and Technical Activities Committee (TAC) decided at this meeting repeat this effort for the Houston meeting. TAC program reviewers will be identified in early February or sooner. Once identified, CEC & TAC will participate in a joint training session on review procedures and on the new program submission software that will be used for the Houston program. Lastly, CEC and TAC during their Saturday meeting in Chicago were able to brainstorm several ideas to improve the program process and new program software further.

6. CEC Seeks Program Tracks Suggestions for the 2019 Annual Meeting in Kansas City, MO

CEC is seeking track suggestions for the 2019 Annual meeting technical program. If you have a suggested track, please pass it on to Tony Giometti, staff liaison to CEC, at PRGstaff@ashrae.net before February 20, 2018.

7. Joint Effort by Leadership of SSPC 90.1 and TAC to Increase TC Involvement

TAC and SSPC 90.1 (Energy Standard for Buildings Except Low-Rise Residential Buildings) leadership met together again in Chicago, as they did in Long Beach, to work on the long standing problem of not enough TC involvement with the SSPC to help with the development of the standard and better understand the Standards process. Members of the TCs and SSPC 90.1 were surveyed prior to this meeting for feedback. The leadership of TAC and SSPC 90.1 then met here at this meeting to review all the survey responses received and to develop a joint response back to each respondent. The end goal of this effort is to recruit more TC liaisons for the standard and to increase at the TC level the awareness and understanding of the standard development processes.

8. RPM (Remote Participation Meetings) held in Chicago

Remote Participation Meetings, which allows some TC members to participate in the TC meeting from a remote location electronically, occurred in Chicago and the following sixteen TCs used this capability: TC 1.12, TC 2.1, TG2(HVAC), TC 4.1, TC 4.2, TC 4.3, TC 4.7, TC 5.11, TC 6.9, TC 7.3, TC 7.8, TC 9.2, TC 9.3, TC 9.4, TC 10.3, and TC 10.6 – This is an increase of one in the number of TCs that hosted RPM meetings in Long Beach. A total of 46 RPM meetings were hosted in Chicago when you include project committee and other committee meetings. For comparison, a total of 33 RPM meetings were hosted in Las Vegas last year at this time. Those TCs interested in possibly having RPM capability for their next TC meeting in Houston should request and justify their need for this capability using the Online Meeting Room Request form for Houston, which is posted now on the TC webpage (www.ashrae.org/TC) under the heading Procedures, Forms & Information for TCs/TGs/MTGs and TRGs – Request Deadline: **Friday, April 6th or sooner**

9. TAC Section Heads & TC Chairs Participated in Student Welcome Event in Chicago

Some members of TAC and some TC Chairs participated in the Student Welcome activity titled *Speed Networking about ASHRAE Technical Committees* in order to introduce students to technical committees in a fun way. The event was well received and TAC intends to make this an annual event at the Student Welcome.

10. TAC Developing a New Method to Document TC Key Performance Indicators over Time

TAC is working on a new method to document TC key performance indicators over time. This will give TC Chairs trends on TC membership, attendance, programs, etc. It will also allow TAC to identify and provide support when trends show a TC is struggling.

B. REMINDERS & REQUESTS

1. 17-18 Rosters Access & Distribution

Remember, the current 2017-2018 roster for your TC, TG or MTG is in effect until after the June meeting this year. By now, each TC, TG and MTG chair should have received a PDF & MS-Excel file of their 2017-2018 roster from their Section Head for distribution to the committee. In addition, each member can view all of the rosters of their committees on the ASHRAE Website by logging into the member's only section at <http://ASHRAE.org/MyActiveCommittees>. Click on the "blue" roster text at the left hand side of a committee to reveal the roster with linked contact information.

The new committee rosters for Society year 2018-2019 will be created based upon the update information that each TC, TG or MTG chair provides to their Section Head and staff using the **NEW!** Online roster update form.

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 pass your conference call/web meeting/webinar requests on to the Manager of Research and Technical Services, Mike Vaughn, at mvaughn@ashrae.org or MORTS@ashrae.net

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 or Karen Thrasher (PDC chair) at PDCchair@ashrae.net 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 - <http://www.ashrae.org/tcs>

C. UPCOMING WORKSHOPS, CONFERENCES AND EVENTS – 2018

1. Business and Technical Aspects of Deep Energy Retrofit of Buildings – Jan. 18 to 20, 2018 – Chicago, IL USA

2. The Global Women in STEM Leadership Summit – Mar. 19 to 20, 2018, Four Seasons Hotel, Atlanta GA USA. This is the only one of its kind 2-day summit held in the world that is dedicated to giving women in STEM access to powerful tools, strategies and networks to advance their careers and realize their full potential.

3. 2018 ACEEE Hot Water Forum – Mar. 20 to 22, Portland, OR USA

4. USA Science & Engineering Festival Expo – Apr. 7 to 8 – Washington, D.C. USA

5. CHR 2018 – China Refrigeration 2018 – Apr. 9 to 11 – Beijing CHINA

6. 13th International HVAC&R Technology Symposium – Apr. 12 to 14, Istanbul, TURKEY

7. Roomvent & Ventilation 2018 Conferences – Jun. 2 to 5, Espoo, FINLAND

8. ASHRAE 2018 Webcast - Making Energy Efficiency a Reality – Apr. 19

9. 1st IIR International Conference on the Applications of HFO Refrigerants – Sep. 2 to 5, Birmingham, UNITED KINGDOM

10. IBPC 2018 – Sep. 23 to 26, Syracuse, NY USA

11. 2018 Building Performance Analysis Conference and SimBuild co-organized by ASHRAE and IBPSA-USA – Sep. 26 to 28, 2018 – Chicago, IL USA

12. AHR Expo – Oct. 2 to 4, Mexico City, MEXICO

13. The Third International Conference on Efficient Building Design – Oct. 4 to 5, 2018 – Beirut, LEBANON

14. Chillventa 2018 – Oct. 16 to 18 – Nurnberg, GERMANY

15. Green Build 2018 – Nov. 14 to 15 – Chicago, IL USA

16. 4th Asia Pacific Conference on the Built Environment – November 18 to 19, 2018 – Kuta-Bali, INDONESIA

17. 2nd ASHRAE Developing Economies Conference – Nov. 10 to 11, 2017, Delhi, INDIA

D. UPCOMING TC AWARD NOMINATION SUBMISSION DEADLINES

2018-2019 Hightower Award Nomination Process and Deadline

Nominations for the 2018-2019 George B. Hightower Technical Achievement Award are due to your Section Head by September 1, 2018. The award recognizes outstanding technical leadership and contributions on a TC/TG/TRG during the past four years, 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: <http://www.ashrae.org/tcs>

2018-2019 Service to ASHRAE Research Award Nomination Process and Deadline

Nominations for the 2018-2019 Service to ASHRAE Research Award for TC volunteer efforts in research are due to RAC research liaison by September 1, 2018. Please go to the Research page of the ASHRAE website at the following link under the "Research Grants and Awards" heading: <http://www.ashrae.org/research>

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

Sincerely,

Mike Vaughn