

**THE RESEARCH & TECHNICAL ACTIVITIES
REPORT**

Release 2 – Las Vegas Program Tracks Updated

Michael R. Vaughn, P.E.
Manager
Research and Technical Services

FOR TC/TG/MTG/SSPC CHAIRS, VICE CHAIRS &
RESEARCH SUBCOMMITTEE CHAIRS
July 2, 2016

2016 ANNUAL MEETINGS

The annual 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 fall meeting.

NEW PROJECTS AWARDED

The following three projects were approved for award as follows:

- **1650-RP**, *Training Requirements for Sustainable High Performance Building Operations*; Responsible Committee: **TC 7.3** (Operation and Maintenance Management); Proposer: Montana State University. Estimated Duration: 18 months; Cost to ASHRAE: \$56,300
- **1729-RP**, *Experimental Verification of Cooling Load Calculations for Spaces with Non-Uniform Temperature Radiant Surfaces*; Responsible Committee: **TC 4.1** (Load Calculation Data and Procedures); Co-Sponsors: TC 5.3 (Room Air Distribution) Proposer: University of Texas - Austin. Estimated Duration: 24 months; Cost to ASHRAE: \$182,841
- **1774-RP**, *Effects of System Chemicals on Breakdown of Lubricants and Lower GWP Refrigerants*; Responsible Committee: **TC 3.2** (Refrigerant System Chemistry); Co-Sponsors: TC 3.3 (Refrigerant System Chemistry and TC 3.4 (Lubricants) Proposer: Spauschus Associates. Estimated Duration: 12 months; Cost to ASHRAE: \$96,580

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

The following project, which is being led by other non-profits also focused on the built environment, were approved for ASHRAE co-funding:

- **CO-RP 3**, *Evidence Based Research Project: Literature Review for ASHRAE Standard 170-2013*; Responsible Organization: **ASHE** (American Society for Healthcare Engineering); Other Co-Funding Organizations: FGI (Facility Guidelines Institute); Estimated Duration: 9 months; Total Cost: \$66,137, Cost to ASHRAE: \$38,600; ASHRAE Committees Supporting Effort: TC 9.6 (Healthcare Facilities), and SSPC 170 (Ventilation of Healthcare Facilities)

Summary of Effort:

ASHRAE Standard 170 is bundled within the FGI *Guidelines for Healthcare Design and Construction*. As such, it is adopted, in some form, as the licensing standard for health facilities in a majority of states in the US. The systems it regulates make up a large percentage of the construction and operation of a health facility. Therefore, its influence is substantial. With high levels of impact come high levels of responsibility.

FGI is currently performing a detailed substantiation exercise of all of its requirements – except for those found in ASHRAE Standard 170 - in order to ensure that its requirements are solidly based on credible evidence of benefit, so as to ensure it achieves the balance between excessive expense and needed prevention. FGI, in deference to its partnership with ASHRAE and ASHE, chose to approach this evidentiary exercise for ASHRAE Standard 170 in partnership.

PROJECTS THAT FAILED TO BE AWARDED

- **1740-TRP**, *Hydrogen Fluoride Capacity of Desiccants*; Responsible Committee: **TC 3.3** (Refrigerant Contaminant Control); Co-Sponsor: TC 3.2 (Refrigerant System Chemistry);

The Research and Technical Activities Report – Annual Meetings – 2016

Estimated Duration: 9 months; Estimated Cost to ASHRAE: \$120,000 – 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.

- **1743-TRP**, *Effect of Inlet Duct and Damper Design on ASHRAE 37/116 Fan Performance and Static Pressure Measurements*; Responsible Committee: **TC 8.11** (Unitary and Room Air Conditioners and Heat Pumps); Estimated Duration: 12 months; Estimated Cost to ASHRAE: \$125,000 – Status: TC 8.11 is currently evaluating the project work statement against a recent Department of Energy (DOE) ruling to determine if the work statement needs to be revised and rebid or if the project can still be awarded under the current work statement and a series of proposal clarification questions to bidders.

PROJECTS STILL PENDING AWARD

- **1741-TRP**, *Understanding Fan Coil Components and How they Relate to Energy Consumption and Energy Modeling*; Responsible Committee: **TC 5.3** (Room Air Distribution); Co-Sponsor: TC 7.7 (Test & Balance); Estimated Duration: 24 months; Estimated Cost to ASHRAE: \$190,000 – Status: TC 5.3 continues to review the multiple bids received before submitting their recommendation to RAC and Technology Council for possible approval.

POTENTIAL PROJECTS FOR BID IN FALL 2016

All or a portion of the following eight tentative research projects (TRPs) are expected to be released for bid or re-bid this fall:

Approved Work Statements Available for Bid in fall 2016

- **1573-TRP-C**, *Determination of Suitable Replacement for SF6 When Used As a Tracer Gas In Accordance With ANSI/ASHRAE Standard 110*; Responsible Committee: TC 9.10 (Laboratory Systems); Co-Sponsors: TC 5.8 (Industrial Ventilation); Status: **Conditionally Accepted**. Work with Research Liaison (RL) to clear RAC's conditions so project can bid.
- **1614-TRP-R**, *Developing a Test Method to Determine the Effectiveness of UVC Systems on Commercial Cooking Effluent*; Responsible Committee: TC 5.10 (Kitchen Ventilation); Co-Sponsors: None; Status: **Prepare for Rebid**. Work with Research Liaison (RL) to expand recommended bidders list and better clarify work statement..
- **1661-TRP-C**, *Development of Near-Optimal Control Sequence for Chiller Plants with Water Side Economizer using Dynamic Models*; Responsible Committee: TC 1.4 (Control Theory and Application); Co-Sponsors: None; Status: **Conditionally Accepted**. Work with Research Liaison (RL) to clear RAC's conditions so project can bid.
- **1711-TRP-R** – *Advanced Sequences of Operation for HVAC Systems – Phase II Central Plants and Hydronic Systems* TC 1.4 (Control Theory and Application); Co-Sponsors: None; Status: **Prepare for Rebid**. Work with Research Liaison (RL) to expand recommended bidders list and better clarify work statement.
- **1719-TRP-C**, *Design Guide for Cool Thermal Storage – Update/Revision*; Responsible Committee: TC 6.9 (Thermal Storage); Co-Sponsors: None; Status: **Conditionally Accepted**. Work with Research Liaison (RL) to clear RAC's conditions so project can bid.
- **1721-TRP-C**, *Oil Return and Retention in Unitary Split System Gas Lines with HFC and HFO Refrigerants*; Responsible Committee: TC 8.11 (Unitary and Room Conditioners and Heat Pumps); Co-Sponsors: TC 10.3 (Refrigerant Piping, Controls, and Accessories); Status: **Conditionally Accepted**. Work with Research Liaison (RL) to clear RAC's conditions so project can bid.

The Research and Technical Activities Report – Annual Meetings – 2016

- **1734-TRP-C**, *Reproducing a Representative Urban Atmospheric Aerosol Distribution at High Concentration in the Laboratory for Air Filter Ageing to be Used in ASHRAE GPC 35P for Determining the Energy Consumption Caused by Air Filters*; Responsible Committee: TC 2.4 (Particulate Air Contaminants and Particulate Contaminant Removal Equipment); Co-Sponsors: SSPC 52.2 (Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency by Particle Size); Status: **Conditionally Accepted**. Work with Research Liaison (RL) to clear RAC's conditions so project can bid.
- **1785-TRP-C**, *Refrigerant Charge Modeling in Coils for Residential Split Systems*; Responsible Committee: TC 8.11 (Unitary and Room Air Conditioners and Heat Pumps); Co-Sponsors: TC 6.3 (Central Forced Air Heating and Cooling System), TC 8.4 (Air-to-Refrigerant Heat Transfer Equipment); Status: **Conditionally Accepted**. Work with Research Liaison (RL) to clear RAC's conditions so project can bid.

WORK STATEMENTS REVIEWED AND APPROVED OR RETURNED WITH COMMENTS

A total of ten work statements were submitted by the TCs for review at the RAC Annual meeting. None were approved as-is, six were conditionally approved, four were returned with comments and none were rejected. See below for the status of each project after this review.

Approved Work Statements:

- **1573-TRP-C**, *Determination of Suitable Replacement for SF6 When Used As a Tracer Gas In Accordance With ANSI/ASHRAE Standard 110*; Responsible Committee: TC 9.10 (Laboratory Systems); Co-Sponsors: TC 5.8 (Industrial Ventilation); Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$100,000; Status: **Conditionally Accepted**. Work with Research Liaison (RL) to clear RAC's conditions so project can bid.
- **1661-TRP-C**, *Development of Near-Optimal Control Sequence for Chiller Plants with Water Side Economizer using Dynamic Models*; Responsible Committee: TC 4.7 (Energy Calculations); Co-Sponsors: TC 1.4 (Control Theory and Application), TC 7.5 (Smart Building Systems); Estimated Duration: 15 months; Estimated Cost to ASHRAE: \$150,000; Status: **Conditionally Accepted**. Work with Research Liaison (RL) to clear RAC's conditions so project can bid.
- **1719-TRP-C**, *Design Guide for Cool Thermal Storage – Update/Revision*; Responsible Committee: TC 6.9 (Thermal Storage); Co-Sponsors: None; Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$100,000; Status: **Conditionally Accepted**. Work with Research Liaison (RL) to clear RAC's conditions so project can bid.
- **1721-TRP-C**, *Oil Return and Retention in Unitary Split System Gas Lines with HFC and HFO Refrigerants*; Responsible Committee: TC 8.11 (Unitary and Room Conditioners and Heat Pumps); Co-Sponsors: TC 10.3 (Refrigerant Piping, Controls, and Accessories), TC 3.4, (Lubrication); Estimated Duration: 24 months; Estimated Cost to ASHRAE: \$150,000; Status: **Conditionally Accepted**. Work with Research Liaison (RL) to clear RAC's conditions so project can bid.
- **1734-TRP-C**, *Reproducing a Representative Urban Atmospheric Aerosol Distribution at High Concentration in the Laboratory for Air Filter Ageing to be Used in ASHRAE GPC 35P for Determining the Energy Consumption Caused by Air Filters*; Responsible Committee: TC 2.4 (Particulate Air Contaminants and Particulate Contaminant Removal Equipment); Co-Sponsors: SSPC 52.2 (Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency by Particle Size); Estimated Duration: 24 months; Estimated Cost to ASHRAE: \$180,000; Status: **Conditionally Accepted**. Work with Research Liaison (RL) to clear RAC's conditions so project can bid.
- **1785-TRP-C**, *Refrigerant Charge Modeling in Coils for Residential Split Systems*; Responsible Committee: TC 8.11 (Unitary and Room Air Conditioners and Heat Pumps); Co-Sponsors: TC 6.3

The Research and Technical Activities Report – Annual Meetings – 2016

(Central Forced Air Heating and Cooling System), TC 8.4 (Air-to-Refrigerant Heat Transfer Equipment), TC 6.3 (Central Forced Air Heating and Cooling Systems); Estimated Duration: 30 months; Estimated Cost to ASHRAE: \$199,000; Status: **Conditionally Accepted**. Work with Research Liaison (RL) to clear RAC's conditions so project can bid.

Work Statements Returned with Comments or Rejected:

- **1745-WS**, *Evaluation of Climate Reanalysis Data for Use in ASHRAE Applications*; Responsible Committee: **TC 4.2** (Climatic Information); Co-Sponsors: None; Estimated Duration: 12 months; Estimated Cost to ASHRAE: \$75,000; Status: **Returned with comments**. Work with Research Liaison (RL) to revise work statement before resubmitting it to RAC for review.
- **1797-WS**, *Assessment of the A/B Toxicity Classification used in Standard 34*; Responsible Committee: **TC 3.1** (Refrigerants and Secondary Coolants); Co-Sponsors: None; Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$190,000; Status: **Returned with comments**. Work with Research Liaison (RL) to revise work statement before resubmitting it to RAC for review.
- **1801-WS**, *Populating and Utilizing ASHRAE Online BIM Data Content*; Responsible Committee: **TC 1.5** (Computer Applications); Co-Sponsors: TC 7.1 (Integrated Building Design), MTG.BIM (Building Information Modeling); Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$125,000; Status: **Returned with comments**. Work with Research Liaison (RL) to revise work statement before resubmitting it to RAC for review.
- **1804-WS**, *A Guideline for Calculating the Avoided Source Energy Consumption Due to Waste Energy Recovery (WER) and Heat Pump (HP) Technologies*; Responsible Committee: **MTG.ASEC** (Avoided Sources Energy Consumption due to Waste Heat Recovery and Heat Pump Technologies); Co-Sponsors: TCs making-up MTG (2.8, 6.8, 6.9, 8.7 and 8.11); Estimated Duration: 24 months; Estimated Cost to ASHRAE: \$200,000; Status: **Returned with comments**. Work with Research Liaison (RL) to revise 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 August 15, 2016 in order to be considered at RAC's fall meeting in September or October. If a work statement cannot be revised that quickly, the next scheduled deadline for RAC consideration is December 15, 2016.

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 2016-2017 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 nine RTARs at its Annual meeting and one was accepted as-is, and five were accepted with comments for inclusion in the Society's Research Implementation Plan and for further development into work statements. The committee also rejected three RTARs. The following is a listing of all RTARs reviewed:

The Research and Technical Activities Report – Annual Meetings – 2016

Approved RTARs:

- **1769-RTAR**, *Experimental Evaluation of the Efficiency of Belt Drives for Fans*; Responsible Committee: **TC 5.1** (Fans); Co-Sponsors: TC 4.7 (Energy Calculations); Status: **Accepted with Comments**. Work with Research Liaison (RL) to address RAC comments on RTAR before proceeding with the development of the project's work statement.
- **1796-RTAR**, *Design Guide for Absorption Chillers and Heat Pumps*; Responsible Committee: **TC 8.3** (Absorption and Heat Operated Machines); Co-Sponsors: None; Status: **Accepted with Comments**. Work with Research Liaison (RL) to address RAC comments on RTAR before proceeding with the development of the project's work statement.
- **1798-RTAR**, *Impact of Combustion Emissions from Gas-Fired Unvented Combustion Devices on Indoor Air Quality*; Responsible Committee: **SSPC 62.2** (Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings); Co-Sponsors: EHC (Environmental Health Committee); Status: **Accepted with Comments**. Work with Research Liaison (RL) to address RAC comments on RTAR before proceeding with the development of the project's work statement.
- **1799-RTAR**, *Validation of Extrapolation of Performing Rating Test Results for Small Energy Recovery Exchangers to Large Exchangers*; Responsible Committee: **TC 5.5** (Air-to-Air Energy Recovery); Co-Sponsors: None; Status: **Accepted with Comments**. Work with Research Liaison (RL) to address RAC comments on RTAR before proceeding with the development of the project's work statement.
- **1800-RTAR**, *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; Status: **Accepted with Comments**. Work with Research Liaison (RL) to address RAC comments on RTAR before proceeding with the development of the project's work statement.
- **1802-RTAR**, *Defining and 2 / 2L Flammability Boundary in Standard 34*; Responsible Committee: **TC 3.1** (Refrigerants and Secondary Coolants); Co-Sponsors: None; Status: **Accepted**. Proceed with the development of the project's work statement.

RTARs Returned or Rejected with Comments:

- **1794-RTAR**, *The Incorporation of Odorants in Refrigerants to Improve Leak Detection* ; Responsible Committee: **TC 3.1** (Refrigerants and Secondary Coolants); Co-Sponsors: SSPC 34 (Designation and Safety Classification of Refrigerants); Status: **Rejected**.
- **1803-RTAR**, *The Effects of Ventilation and UVGI Devices on the Infection of Respiratory Disease in Students' Dormitories*; Responsible Committee: **EHC** (Environmental Health Committee); Co-Sponsors: TC 2.9 (Ultraviolet Air and Surface Treatment); Status: **Rejected**.
- **1805-RTAR**, *Near-Optimal Thermal Energy Storage Control Sequences*; Responsible Committee: **TC 1.4** (Control Theory and Applications); Co-Sponsors: TC 7.5 (Smart Building Systems); Status: **Rejected**.

By rejecting these topics, RAC is strongly suggesting to the TCs that these particular topics be dropped from the TC research plan based on the information provided.

The RTAR form that is now in use by RAC for Society year 2016-2017 can be found on the "Research" page of the ASHRAE website at www.ashrae.org/research.

New or revised work statements and RTARs need to be received by the Manager of Research and Technical Services (MORTS), Mike Vaughn, morts@ashrae.net, no later than August 15, 2016 to be

considered at RAC’s fall meeting in either September or October. If RTARs cannot be revised that quickly, the next deadline for RAC consideration of RTARs is December 15, 2016.

SOCIETY RESEARCH IMPLEMENTATION PLAN

The Society Research Implementation Plan is now being updated following the annual meeting of RAC. New RTARs will be added and tentative research project RFPs will be added or dropped depending on 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 summer updates to the plan should be in place by **August 1, 2016** 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.

The Research and Technical Activities Report – Annual Meetings – 2016

DEADLINES

The following deadlines apply for the next several months. Please recognize 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).

- July 8, 2016** Final Conference Papers (Includes Bio, Learning Objectives and Methods of Assessment) due to Conferences & Exposition Committee (CEC) for final review for the 2017 winter meeting in Las Vegas, NV.
- July 25, 2016** Conference and Technical Paper Final Accept/Reject Notifications for 2016 winter meeting in Las Vegas, NV sent by CEC.
- August 8, 2016** Submission deadline for program proposals (seminars and forums) for the 2017 winter meeting in Las Vegas, NV. Conference Website: www.ashrae.org/lasvegas/
- August 15, 2016** New or revised Work Statements and RTARs are due to MORTS for RAC consideration at the 2016 Fall RAC meeting.
- August 29, 2016** Full Technical paper drafts and Conference paper abstracts are due for the 2017 Annual Meeting in Long Beach, CA. Conference Website: www.ashrae.org/longbeach/
- August 30, 2016** TC/TG/TRG meeting minutes from the Atlanta meeting are posted on TC website and distributed to membership by this date.
- September 1, 2016** Nominations for the 2016-2017 *George B. Hightower Technical Achievement Award* for TC volunteer efforts over the past four years, in areas except research and standards, are due to TAC section heads.
- September 1, 2016** Nominations for the 2016-2017 *Service to ASHRAE Research Award* for TC volunteer efforts in research over the past five years are due to the RAC research liaison.
- September 7, 2016** Seminar, Forum, Workshop Accept/Reject Notifications for 2017 winter meeting in Las Vegas, NV sent by CEC.
- September 9, 2016** Conference Paper Abstracts Accept/Reject Notifications for 2017 annual meeting in Long Beach, CA sent by CEC.
- September 15, 2016** Conditionally approved tentative research projects that are approved for bid or re-bid must have all conditions satisfied with section Research Liaison and be in the hands of the MORTS by this date or sooner if they are to be eligible for possible bid in the fall 2016.
- October 1, 2016** Completed TC/TG/TRG meeting room request form for 2017 Winter Conference in Las Vegas due to Lizzy Seymour (lseymour@ashrae.org) at ASHRAE HQ. Subcommittee meeting rooms must be requested for each meeting or they will be dropped automatically.
- October 15, 2016** Fall 2016 tentative research projects (TRPs) are released for bid.
- November 1, 2016** Innovative Research Grant Solicitation for SY 16-17 announced through *RP Bidders* Listserv and Research page of ASHRAE website.

The Research and Technical Activities Report – Annual Meetings – 2016

November 30, 2016	Ideal submission date for Unsolicited Research Proposals in order to most likely obtain a funding decision on the proposal at the ASHRAE 2017 winter meeting in Las Vegas.
November 30, 2016	TC/TG/MTG/TRG Chairs receive 2017-18 roster update workbook or web portal link information for roster update completion.
December 1, 2016	Applications for the ASHRAE New Investigator Award are due to MORTS.
December 9, 2016	Final Conference papers for 2017 Annual meeting in Long Beach are due for review (includes BIO, Learning Objectives and Methods of Assessment) – requires approved abstract; Request for Conference Paper Session are also due now.
December 15, 2016	Nominations for the ASHRAE Homer Addams Award, which is given to graduate students assisting in current or recently completed ASHRAE sponsored research projects, are due to MORTS.
December 15, 2016	Bids are due for all Tentative Research Projects (TRPs) released in fall 2016.
December 15, 2016	New or revised Work Statements and RTARs are due to MORTS for RAC consideration at the 2017 winter meeting.
December 15, 2016	Innovative Research Grant (IRG) Pre-proposals are due to MORTS for RAC consideration at the 2017 winter meeting.
December 29, 2016	TC/TG/TRG meeting agenda for the Las Vegas meeting is posted to the TC website and distributed to membership by this date or sooner.
January 2, 2017	Website Opens for Seminar, Forum and Paper Proposals for the 2017 Annual Meeting in Long Beach, CA.
January 16, 2017	Conference Paper Accept/ <u>Revise</u> /Reject Notifications for 2017 Annual meeting in Long Beach, CA sent by CEC.
January 31, 2017 Midnight	Roster update information for 2017-2018 TC/TG/MTG/TRG rosters are due to section head.
January 31, 2017 Midnight	Contractor recommendations are due to MORTS for all TRPs that were bid in fall 2016 or before. Place the Proposal Evaluation Summary sheet in MORTS' lockbox outside ASHRAE Headquarters Room in Las Vegas or e-mail MORTS at morts@ashrae.net .
February 6, 2017	Submission deadline for program proposals (seminars and forums) for the 2017 annual meeting in Long Beach. Conference Website: www.ashrae.org/longbeach/ .
February 20, 2017	Conference & Technical Paper <u>Final</u> Accept/Reject Notifications for 2017 Annual meeting in Long Beach, CA sent by CEC.
March 1, 2017 (New Date)	Applications for ASHRAE Graduate Student Grant in Aid program are due to MORTS.

OTHER NEWS:

A. ANNOUNCEMENTS

1. TAC approved the formation of the following new multidisciplinary task group (MTG):

MTG.ACR – Air Change Rate

Scope: MTG.ACR will coordinate TC/TG/TRG/SSPC technical activities to help evaluate the technical basis and adoption of airflow rate specifications in terms of Air Change Rate (ACR) or Air Changes per Hour (ACH) for spaces such as cleanrooms, laboratories, patient rooms, operating rooms, and other similar spaces. Responsibilities include suggestions for research, development and presentation of technical programs for all types of spaces which currently require ACR specifications, and a special publication detailing aspects of the ACR philosophy and practice. The work of this MTG will potentially impact design guidelines, ASHRAE Handbook, and related ASHRAE standards. This MTG intends to involve other national and international groups and organizations in these efforts.

The chair of this MTG is Kishor Khankari.

2. TAC Approved a New Scope for MTG.LowGWP – Title and New Scope is as follows:

Title: Lower Global Warming Potential Alternative Refrigerants

Scope: MTG.LowGWP will coordinate TC/TG/TRG technical activities to help transition the HVAC&R industry to sustainable lower Global Warming Potential (GWP) alternative refrigerants. The MTG will further request participation from US EPA and AHRI. The MTG responsibilities include research, development and presentation of technical programs of all types on alternative lower GWP refrigerants, suggestions for Life Cycle Climate Performance (LCCP) systems evaluation for different applications, development of lower GWP solutions for different applications, and a special publication detailing aspects of LCCP applied to the HVAC&R fields.

Background:

The ASHRAE Board recently approved a motion to transfer \$1.2 million from the Research Reserve fund in order to support expedited research on mildly flammable (A2L) low global warming alternative refrigerants so that ASHRAE Standard 15 and 34 can be updated to address these new possible refrigerants and incorporated into building codes in a timely fashion. TAC approved motions in STL that this MTG lead the A2L research and that the chair be ASHRAE Presidential Member Jim Wolf. The logical ASHRAE technical group to lead this charge is MTG.LowGWP because TCs 2.5, 3.1, 3.2, 3.4, 8.2, 8.4, 8.5, 8.11, 10.1, 10.7, and SSPCs 15 and 34, AHRI, U.L., and UNEP are already represented on this MTG or are in the process of being added now. The MTG was also briefed on the expedited research charge and voted to accept the charge if asked to lead the effort.

Other TCs and SSPCs may also now wish to participate in this MTG with a Voting Representative and Alternate(s) given its new scope and charge.

If your committee wishes to join MTG.LowGWP, please contact the ASHRAE Manager of Research and Technical Services, Mike Vaughn, at MORTS@ashrae.net as soon as possible.

3. TAC Disbanded MTG.ET – Energy Targets

TAC disbanded MTG.ET (Energy Targets) now that the research project (RP-1651) that the MTG was created to develop and monitor has been completed. Responsibility for the Society's Vision 2020 plan will now reside with TC 7.6 (Building Energy Performance)

For more information on MTGs, please go to the MTG section on the following web page:
<http://www.ashrae.org/tcs>.

If your TC would like to have a voting representative on a particular MTG, please contact the ASHRAE Manager of Research and Technical Services, Mike Vaughn, at MORTS@ashrae.net.

4. Provisional Corresponding Member (PCM) Process

The process for adding new PCMs to TC rosters and notifying all affected parties (chair, staff, etc.) has now been automated through the ASHRAE website. Potential new TC members now just need to click on the **JOIN A TC** button at the top of the TC page (www.ashrae.org/tcs) on the ASHRAE website to get started.

5. New TC Email Position Aliases for 16-17 Society Year Now Available!

The 16-17 Email Alias list can be accessed from the TC webpage under the heading *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs*. The list includes name and position e-mail aliases for all required TC positions for all TCs plus position e-mail aliases for most standing committees and ASHRAE staff liaisons.

6. RAC Continues to Prioritize Research Topics Related to the Residential Sector

RAC will be prioritizing in SY 16-17 for bid accepted research topics that support Goal #3 below from the Research Strategic Plan.

Goal #3: *To reduce significantly the energy consumption for HVAC&R, water heating and lighting in existing homes.*

B. REMINDERS & REQUESTS

1. 16-17 Roster Access & Distribution

By now, each TC, TG and MTG chair should have received a PDF & MS-Excel file of their new 2016-2017 roster from their Section Head or staff for distribution to the committee. In addition, each member can view all of the rosters of their committees on the ASHRAE Website. Go to www.ashrae.org <http://www.ashrae.org>, click on the "Membership & Conferences" tab in the header, click on "My Membership" text in the left sidebar, and log in (if you have not logged in lately, you might need to set up a new username and password). Click on the "Update Your Bio / View or Edit Tour Profile" link. Now, you should see your current "bio info". Click on "Committees" on the left sidebar; all of the committees you are a member of will appear. Click on the "blue" roster text at the left hand side of a committee to reveal the roster with linked contact information. Make sure everyone on your committee also knows how to access the roster.

The Provisional Corresponding Member (PCM) position is a relatively new position on TC/TG/TRG rosters. This position allows potential new members to be added by staff to the committee roster any time a request for membership is made by an individual. The position has a 2-year term on the committee. Staff will notify the chair and reissue a new roster to the committee chair any time a provisional member is added. The TC/TG/TRG chair has the option each year during the regular roster update process to convert provisional CMs that have been active participants on the committee the past year into regular CMs or voting members or drop them. If no action is taken, they will time expire from the roster and be removed by staff. It is suggested that TC chairs start to clean-up their rosters and keep them current by asking corresponding members to confirm their participation for next year's roster update

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. 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. CEC Standing Request for Program Track Suggestions for Future Society Meetings

The Conferences and Expositions Committee (CEC) oversees ASHRAE's annual and winter conferences and other specialty conferences and expositions globally. The CEC continually works to improve the conference experience for all attendees. To help keep a "pulse" on the technical issues facing professionals in the HVAC&R marketplace, and to create meetings that reach all of ASHRAE's constituencies, the CEC seeks ideas for tracks for the Chicago 2018 meeting and annual and winter conferences beyond as well as topics for specialty conferences from TC members.

Please submit your suggestions to ASHRAE Staff member Tony Giometti (Giometti@ashrae.org).

Program Focus at Las Vegas Winter Conference – January 28 – February 1, 2017

- Track 1: Fundamentals and Applications
Track Chair: Chuck Curlin
Email: ccurlin@shultzeg.com
Engineering fundamentals are the foundation to understanding modeling, design, construction and operation of HVAC&R applications. This track provides opportunities for papers and presentations on theories, models, designs and shared experiences for both theoretical and applied concepts.
- Track 2: HVAC&R Systems and Equipment
Track Chair: Michael Collarin

Email: Michael.Collarin@parsons.com

Selection of equipment and design of systems is critical for effective HVAC&R operation, and for achieving building operators' goals. The papers and programs in this track will assist designers and building operators in the use of traditional, non-traditional and hybrid equipment and systems; with an emphasis on high performance, sustainable and LEED-certified buildings.

- Track 3: Water-Energy Nexus

Track Chair: Gary C. Debes

Email: gcdebes@verizon.net

The interdependencies between our water and energy systems are clear and are becoming more prominent as development requires the use of more resources while over-use and climate change make some resources scarcer. On the macro level, water is used in all phases of energy production and electricity generation (including renewables); and energy is required to extract, convey and deliver water, and to treat wastewaters prior to their return to the environment. On the micro level, the water-energy nexus is a major consideration for the HVAC&R community in determining equipment and system selection and design as well as building operation. This track will present papers and programs highlighting recent research on this issue as well as technologies and designs intended to reduce the gap between energy and water efficiency.

- Track 4: Commercial and Industrial IAQ

Track Chair: Kevin Marple

Email: kmarple@benzco.com

Indoor Air Quality is a vital consideration in the built environment. As people spend increasingly more time in industrial and commercial facilities, IAQ is closely linked to occupant comfort, satisfaction, productivity and health. This track will offer papers and programs to inform building owners and operators on the value of improving IAQ.

- Track 5: Mission Critical Design and Operation

Track Chair: Carrie Anne Crawford

Email: carriecrawford@eeace.com

As societies become more dependent on mission critical facilities, the design and operation of these facilities has undergone rapid change. This track will present papers and programs which will highlight advances in technologies, controls, design and operation of mission critical facilities to meet their increasing loads while also minimizing their impact on energy/water usage.

- Track 6: Effects of Climate Change on HVAC&R

Track Chair: Rocky Alazazi

Email: mralazazi@yahoo.com

Climate change will have an increasing effect on the design and operation of the built environment. How does the HVAC&R community design for buildings today that are intended to be highly functional and efficient well into a future where today's standards, codes and practices may not be sufficient to meet tomorrow's climatic conditions? This track seeks papers and programs that will inform the selection of strategies, designs and approaches that will increase building resilience and facilitate climate adaptation.

- Track 7: Energy Efficient Industrial Buildings

Track Chair: Corey Metzger

Email: corey.metzger@resourcece.com

Industrial facilities often have different HVAC&R requirements than do commercial and institutional facilities. Oftentimes these are a result of the processes that occur within industrial facilities as well as the life safety issues these processes create. This track will present papers and programs that will inform how energy efficiency can be achieved without compromising life safety considerations.

- **Track 8: Building Operation and Performance**
Track Chair: Cynthia Moreno
Email: cindym@tmmechanical.com
Modeling has become an essential factor in the design of all aspects of many buildings. Often the operational results of the building do not match the modeled outcome that the owner/operator expected. This can lead to much “finger pointing” or worse. This track will present papers and programs to update modelers, designers, contractors and owners/operators on how to better match building performance with modeled expectations.

5. Upcoming TC Award Nomination Submission Deadlines

2016-2017 Hightower Award Nomination Process and Deadline

Nominations for the 2016-2017 George B. Hightower Technical Achievement Award are due to you Section Head by **September 1, 2016**. 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>.

2016-2017 Service to ASHRAE Research Award Nomination Process and Deadline

Nominations for the 2016-2017 Service to ASHRAE Research Award for TC volunteer efforts in research are due to RAC research liaison by **September 1, 2016**. 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>.

6. Upcoming Webcasts, Workshops and Conferences:

2016

- **Indoor Air 2016** (14th International Conference of Indoor Air Quality and Climate) – July 3 to 8, 2016 – Ghent, BELGIUM – Contact: <http://www.indoorair2016.org/>
- **2016 Purdue Conferences** – July 11 to 14, 2016 – Purdue University West Lafayette, IN, USA – Contact: <http://engineering.purdue.edu/HerrickConf>
- **ASHRAE and IBPSA-USA SimBuild 2016: Building Performance Modeling Conference** – August 10-12, 2016 – Salt Lake City, Utah USA – Contact: <http://ashraem.confex.com/ashraem/ibpsa16/cfp.cgi>
- **2016 JSRAE Annual Conference** – Sep. 6 – 9, 2016 - Kobe University (Rokkodai Campus, Kobe, JAPAN) – Contact: <https://nenji.jsrae.or.jp/nenji2016/en/index.html>
- **IAQ 2016 - Defining Indoor Air Quality: Policy, Standards and Best Practices** – September 12-14, 2016 – Alexandria, Virginia USA – Contact: <http://ashraem.confex.com/ashraem/iaq16/cfp.cgi>
- **IEA EBC Annex 61 Deep Energy Retrofit Forum** - Sep 15 -16, 2016 - Washington, DC USA – Contact: <http://iea-annex61.org/>
- **AHR Expo Mexico** - Sep 20 -22, 2016 - Monterrey, MEXICO – Contact: <http://www.ahexpomexico.com/>
- **2nd International Conference Efficient Building Design: Materials and HVAC Equipment Technologies** - September 22 to 23, 2016 - Beirut, LEBANON – Contact: <https://www.ashrae.org/membership--conferences/conferences/2016-2nd-international-conference-efficient-building-design>

The Research and Technical Activities Report – Annual Meetings – 2016

- **IAQVEC 2016** (9th International Conference on Indoor Air Quality Ventilation & Energy Conservation in Buildings) – Oct. 23 -26, 2016 – Seoul, SOUTH KOREA - Contact: <http://iaqvec2016.org> / or info@iaqvec2016.org
- **Buildings XIII** – Thermal Performance of the Exterior Envelope of Whole Buildings Conference – Dec. 4 - 8, 2016 - Clearwater Beach, FL USA – Contact: <http://web.ornl.gov/sci/buildings/2016/index.shtm>

2017

- **Sustainable Management of Refrigeration Technologies in Mobile Marine and Fisheries Sectors** - January 11-13, 2017 - Bangkok, THAILAND – Contact: <https://www.ashrae.org/membership--conferences/conferences/ashrae-conferences/marine-2017>
- **2017 ASHRAE Winter Conference & AHR Expo** – Jan. 28 to Feb.1, 2017 – Las Vegas, NV – Contact: <http://ashraem.confex.com/ashraem/w17/cfp.cgi>
- **2nd International Conference on Energy and Indoor Environment for Hot Climates** - February 26 - 27, 2017 - Doha, QATAR – Contact: <https://www.ashrae.org/membership--conferences/conferences/ashrae-conferences/energy-and-indoor-environment-for-hot-climates>
- **Beyond NZEB: Retrofit of Existing Buildings** – May 10 - 11, 2017 – Matera, ITALY – Contact: <http://www.aicarr.org/Pages/EN/Upcoming%20Events/2016/50AiCARR.aspx>
- **12th IEA International Heat Pump Conference** – May 15 to May 18, 2017 – Rotterdam, NETHERLANDS – Contact: <http://hpc2017.org/>
- **ISHPC2017** – Aug. 7 – Aug. 10, 2017 – Tokyo, JAPAN – Contact: <http://biz.knt.co.jp/tour/2017/ISHPC2017/congress.html>

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

Sincerely,
Mike Vaughn