

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING
ENGINEERS, INC.
1791 Tullie Circle, N.E./Atlanta, GA 30329
404-636-8400**

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 No. 8.5 DATE 01/20/2014

TC/TG/MTG/TRG TITLE Liquid-to-refrigerant heat exchangers
DATE OF MEETING 01/20/2014 LOCATION New York Hilton, NY, NY

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Justin P. Kauffman	2009	Ebrahim S. Al-Hajri	2009	Kashif Nawaz
Kaushik Oza	1997	Sankaranarayanan Padmanabhan	2011	Yang Zou
Omar A. Abdelaziz	2009	Steve Brown	2013	Rick Heiden
Satyam Bendapudi	2011	Rikard Tieger	2013	Mallik Chitti
Kenneth Schultz	2003	Zahid Ayub	2001	Katelyn Balmer
Joseph Huber	1996	Ricardo J Da Silva Lima	2013	Seth Gladfelter
Evraam Gorgy	2012	James Bogart	2002	Lindsey King
Stanislav Perencevic	2009	John Kennedy	2012	Justin Prosser
Lorenzo Cremaschi	2009	Arthur Fovargue	2000	Jack Esformes
Andreas Knoepfler	2007	Hyunyoung Kim	2012	Karine Brand
Benjamin E. Dingel	2001	Jon Hartfield		Florian Hudelmaier
James T. Schaefer Jr	2011	Manfred Knab		Michael Groen
Steven J. Eckels	2003	Amir Jokar	2005	Anthony Jacobi
Samual Yana-Motta	2004	Harry Li	2005	
Yirong Jiang	2013	David Miller		
Achim Gotterbarm	2012	Scott MacBain		
Satheesh Kulankara	2003	Eduardo Nunez		
Liping Liu		Michael Ohadi		
John Thome	2003	Josua Meyer		
Petur Thors	2001	Thomas Ortiz		

Kishan Padakannaya		Michael Taras		
Justin Piggush		Jamal Yagobi		
		Mahesh Valiya-Naduvath	2003	
		Bo Shen		
		Parviz Payvar	1992	
		Andrew Sommers		
		Keith Starmer	1995	
		Jeb Schreiber		
		Jared Stearns		

DISTRIBUTION

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

TAC Section Head:	Stephen Duda
TAC Chair:	Walter Grondzik
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters:	Hugh McMillan III, James Aswegan, Thursten Simonsen, Michael Vaughn, Patrick Marks, David Yashar
Manager Of Standards Manager Of Research & Technical Services	Mike Vaughn



ASHRAE

American Society of Heating, Refrigerating and Air-Conditioning Engineers

Inc.

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ASHRAE TC 8.5 – Heat Transfer Refrigerant Heat Exchangers Winter Meeting, 20 January 2014 (New York, NY)

Call to Order

TC Chair Kauffman called the meeting to order at 4.20pm and read the TC 8.5 TPS.

Attendees introduced themselves and signed-in.

Confirmation of Quorum

12 of 13 (incl. non-quorum) voting members were present at quorum call; quorum was established.

Members present: J. Kauffman, K. Oza, O. Abdelaziz, S. Bendapudi, S. Perencevic, E. Gorgy,

L. Cremaschi, A. Knoepfler, B. Dingel, J. Schaefer, S. Eckels, S. Yana-Motta

Members absent: E. Al-Hajri

Section Head Comments (S. Duda)

S. Duda introduced himself. He relayed that ASHRAE would be starting a recognition program for TC's that do well in their objectives. Some of the metrics would be quorumchecks, timely dissemination of agenda and minutes. There would also be some discretionary points for vigor and conduct. Details are being included in the Chair's package (appended).

S. Duda relayed that the Board of Directors is asking everyone to be aware of the ASHRAE code of ethics. These are posted online on the ASHRAE website.

Members are also reminded to update their employment disciplines on their ASHRAE bios online.

S. Duda can be reached at sh8@ashrae.net for any questions regarding the TAC.

Approval of the Minutes from the previous meeting in Denver, CO

Minutes were circulated for review. A. Knoepfler moved to approve the minutes. B. Dingle seconded.

Members voted 11 for, none opposed, 1 abstained (11-0-1). Minutes approved.

Report from Membership sub-committee (K. Oza)

[Please also see Emergency Roster Change appended for updates]

There are 13 voting members and 36 corresponding members on the roster. Following roster changes are to take effect from July 1st, 2014:

J. Kauffman announced that he would roll off as Chair.

S. Bendapudi volunteered to roll in as Chair.

S. Kulankara volunteered to be Vice Chair.

Y. Zhou volunteered to be Secretary.

S. Padmanabhan continues as Handbook SC Chair.

J. Piggush to roll in as Research SC chair from K. Schultz.

S. Eckels volunteered to be Program SC chair. S. Eckels also volunteer to support the current Program SC Chair, O. Abdelaziz, and assume his responsibilities in the interim.

J. Huber to continue as Standards SC Chair and Webmaster.

Report from Program Sub-Committee (O. Abdelaziz)

“Modern Measurement Techniques in Heat Transfer and Fluid Flow” was submitted as a seminar, but was not accepted. Three speakers have been identified. S. Eckels to contact J. Hartfield about resubmission with the possible changes in speakers and Chair since J. Thome and J. Hartfield will not be able to make it to the summer meeting.

L. Cremaschi moved to have TC1.3 take leadership. J. Schaefer seconded. 12 in favor, none opposed, none abstained. Motion carried.

A conference papers session on Enhanced heat transfer was discussed. Fatemeh Hassanipour and Steven Eckels agreed to pool interest from other faculty on developing this session. Goal is a paper session for Chicago.

O. Abdelaziz relayed comments from the Chair’s breakfast that workshops were being preferred over forums, and the need to work with TAC Chairs on programs.

S. Kulankara proposed a program on reviewing the AREP data for heat transfer performance.

J. Schaefer proposed a seminar of reports from individuals on different heat exchanger technologies with low GWP refrigerants, possibly titled “Technology review of liquid-liquid heat exchangers”.

J. Schaefer volunteered to cover shell-and-tube related material; A. Knoepfler recommended adding evolution of surfaces in shell-and-tube heat exchangers. S. Eckels offered to solicit A. Jokar and J. Bogart for other constructions.

Report from Standards Sub-Committee Chair (J. Huber)

Standard 22: “*Methods of Testing for Rating Water-Cooled Refrigerant Condensers*” went out for public review in Fall 2013. Galleys came back 2 weeks prior to this TC Meeting. The Standard was approved for publication on 1/25/2014.

Standard 181P: “*Methods of Testing for Rating Liquid-to-Liquid Heat Exchangers*” has gone through public review. Galley proofs are being reviewed now. Not expected to be approved until June Meeting.

Standard 24 – “*Methods of Testing for Rating Liquid Coolers*” was reaffirmed. The next iteration expected in 2015 will need more significant revision.

Report from Handbook Sub-Committee Chair (J. Kauffman on behalf of S. Padmanabhan)

Nothing new to report.

Report from Webmaster (J. Huber)

Nothing new to report.

Report from MTG Liaison (J. Kauffman)

J. Kauffman reported that the MTG had met via telephone in August 2013 and again in January 2014. Program ideas for a mini-conference were solicited, and interested parties were invited to attend the Wednesday 1/29/2014 meeting at 10am.

Report from Research Sub-Committee Chair (K. Schultz)

K. Schultz reported that there are currently 62 active projects totaling \$11M in funding. Six (6) projects were completed since June 2013. Eight (8) TRP's were released for bid; none are waiting in queue. Six (6) RTAR's and four (4) Work Statements were evaluated at the New York Meeting. Eleven (11) TRP's are expected to go out for bid in Spring.

Sixty-four (64) Grant-in-Aid applications were received, of which 23 were selected.

Thirteen (13) nominations for the New Investigator Award were submitted, and the winner is to be announced in February 2014.

The RAC will not review any new RTAR's or WS's in Spring, but new ones are due by May 15th, 2014.

K. Schultz reported that the contractor selection process was reviewed at the Research Breakfast; slides and further detailed notes are attached under Appendix A.

K. Schultz submitted an RTAR on Heat Transfer Performance for Medium Pressure Low GWP Refrigerants in Tube Bundles.

RP-1677 PMS Chair B. Dingle reported on progress. Project was awarded after the Denver Meeting. The contract was awarded to Prof. Xinlei Wang from University of Illinois – Urbana Champaign. The PMS met with the PI on Jan 15th, 2014 via telephone, and also at the NYC Meeting on Jan 26th to review initial proposals of design and methodology and recommended changes. J. Schaefer offered to help with the design of the heat exchangers; A. Knoepfler offered to help with tube samples. Additional phone conferences are expected prior to the Annual Meeting in Seattle. PMS will approve design of the test section prior to construction.

Chairs comments:

J. Kauffman reported following highlights from the Chair's breakfast (detailed notes attached as Appendix B):

- G.D. Mathur recognized with the Hightower Award;
- Outstanding TC Award program details are being flowed down;
- Members reminded again to review ASHRAE Code of Ethics;
- A new MTG committee to develop a *Hot Climate Design Guide* has been created, and liaison volunteers are sought;
- Members are asked to update the Employment Discipline fields on their online ASHRAE profiles;

The next TC8.5 Meeting will be on June 30th, 2014 in Seattle.

New Business

None

Adjourn

Meeting adjourned at 6pm.

Appendix A
Research Sub-Committee Report
K. Schultz

TC 08.05 RESEARCH REPORT – JAN 2014 / NEW YORK

The joint TC 1.3/8.5 Research Review Meeting usually held on Sun from 3:00pm-7:00pm was omitted from the first preliminary committee meeting schedule posted on the ASHRAE website (at least as late as 20-Dec-2013). The meeting time did show up (as unconfirmed) in a later release (eg, 03-Jan-2014). However, the PI for 1677-RP had already made arrangements to arrive in New York late Sun afternoon, too late to attend the Sun meeting. The Sun meeting was used by TC 1.3 to conduct a status update of 1556-RP – Characterization of Liquid Refrigerant Flow Emerging from a Flooded Evaporator Tube Bundle.

Active Research Projects

1677-RP – Measurement and Prediction of Waterside Fouling of Internally Enhanced Condenser Tubes in Cooling Tower Applications PI: Dr Xinlei Wang and Dr Tony Jacobi, University of Illinois – Urbana/Champaign. Start date: 01-Sep-2013. Original end date: 31-Dec-2015. PMS: Ben Dingel (chair), Satyam Bendapudi, Andreas Knoepfler, Satheesh Kulankara, James Schaefer.

RAC approved the TC's recommendation of a contractor for this project at their Denver meeting (22-Jun-2013). The project has been awarded to the University of Illinois – Urbana/Champaign with PI's Dr Xinlei Wang and Dr Tony Jacobi for a duration of 28 months.

The first progress report was distributed to the PMS on 13-Jan-2014, mainly comprising a preliminary test facility design proposal along with a number of questions. A teleconference was held 15-Jan-2014 to review the report and address questions posed by and provide feedback to the PIs. Additional feedback was provided by the PMS by email on 16-Jan. A face-to-face meeting between the PI and PMS was conducted Mon 20-Jan during the New York conference. The PI will continue to work on the facility design. James Schaefer volunteered to provide advice toward design and construction of the test condensers. Andreas Knoepfler volunteered to assist with selection of the tubes to be tested.

Prospective Research Projects

A strong list of research projects was generated at the Denver meeting. Zahid Ayub drafted a work statement titled "Study of Outside Condensation of Carbon Dioxide with Enhanced Tubes" that was circulated among the committee for discussion in Oct 2013. The work statement was withdrawn by the author following questions of the perceived limited impact of the work that arose during the voting period.

A draft RTAR titled "Heat Transfer Performance of Medium Pressure Alternative Lower GWP Refrigerants in a Flooded Evaporator Comprising an Enhanced Tube Bundle", authored by Justin Kauffman, was circulated to the committee just prior to the New York meeting. Ken will prompt the membership for comments and discussion over the next couple of weeks. A final draft will be compiled from the comments received and distributed for a vote by email ballot.

It is hoped another RTAR can be generated and approved by the committee prior to the next submission deadline of 15-May. Our list of topics includes:

- *Heat transfer performance of lower GWP refrigerants in a sprayed evaporator bundle*
- *Heat transfer performance of lower GWP refrigerants in a condenser tube bundle.*

- *Heat transfer performance of lower GWP refrigerants in plate-type evaporators.*
- *Heat transfer performance of lower GWP refrigerants during in-tube flow boiling.*
- *Evaluation of Tube Cleaning Processes and Techniques.*
- *Impact of Oil on Flooded Coolers.*

TC 8.2 has submitted an RTAR to perform a field survey of oil levels/concentrations in evaporators of scroll, screw, and centrifugal chillers; the RTAR was approved at the New York RAC meeting. A follow-on project would be needed to understand the implications of the survey results on actual chiller performance.

Notes from Research Breakfast

The slides from the Research Breakfast are attached. ASHRAE currently has 62 active research projects with a total value of \$10.8M. Since Jun-2013, 6 projects were completed, 10 new projects were approved (7 already under contract), and 8 RFP's released for bid. There is now a more normal balance between proposed research and available funding.

In New York, RAC evaluated 6 RTAR's with 2 conditionally accepted, 1 accepted, 1 returned, and 2 rejected. Four work statements were evaluated with 1 accepted, 1 conditionally accepted, and 2 returned with comments. There are 11 TRP's ready for bid in Spring 2014. In addition, RAC has received 5 URP's that are under review.

The contractor selection process was reviewed during the meeting. Our PES's have done a good job of following the process. The process is described in detail in the Research Manual for reference, <https://www.ashrae.org/standards-research--technology/research> (link to document is toward bottom of the page).

The next deadline for RTARs and WSs is 15-May. According to our liaison, the agenda for the Spring meeting (if there is one) is full of administrative tasks and so no new RTARs or WSs will be reviewed at that time.



Research Subcommittee Chairs' Breakfast Presentation

Winter Meeting 2014 – New York, NY
Donald Bivens, Vice Chair
Monday, January 20, 2014



Research Administration Committee

1901-501

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***MANY THANKS TO
YOU AND YOUR
COMMITTEES!***

'RESEARCH IS THE TECHNICAL UNDERPINNING OF ASHRAE'

"RESEARCH IS THE FUNDAMENTAL FOUNDATION OF ASHRAE"

Edward Tsui, BOD Ex-Officio, January 18, 2014



Research Administration Committee

1901-501

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Agenda

- Current Projects
- WS, RTAR, and URP Status
- GIA, Homer Adams, and New Investigator Awards
- Announcements
- Piotr Domanski: Contractor Selection for Research Projects.....PES

12/14/2013



Research Administration Committee

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Current Projects

- We have 62 active RPs
- **Total value \$ 10.8 million**

Large project recently completed. → \$12M

Since June 2013:

- **6** projects were completed.
- **10** new projects approved for funding (7 have been contracted)
- **8** Tentative Research Project (TRPs) released for bid (no projects on-hold due to funding)

12/14/2013



Research Administration Committee

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Good balance between WS & funding.



WS, RTAR, and URP Status

- In New York, RAC evaluated **6 RTARs** (1650, 1715, 1716, 1722, 1725, 1727) – conditionally accept pending report of TC vote/reject/accept/return/reject/conditionally accept
- RAC evaluated **4 WS** (1627, 1669, 1705, 1724) – return/return/conditionally accept/accept
- Potential TRPs ready for bid in spring 2014-
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- **5** URPS under review by RAC and TCs

19-01-2014

 Research Administration Committee

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Why do RTARs get Returned?

- Most common reasons
 - Not appropriate for ASHRAE funding
 - Inadequate references to past work or existing literature
 - Project description not clear; how it will “advance” the state-of-the art
 - Budget does not seem in line with work to be completed

Research SC Chairs strongly encouraged to get feedback from Research Liaison during the breakfast meeting

19-01-2014

 Research Administration Committee

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GRANTS-IN-AID (\$ 10k each)

- A letter announcing the availability of ASHRAE Grants-In-Aid for Graduate students was sent to over 300 colleges in October 2013.
- **64** candidates applied for a grant and **23** were selected by the RPS (last year we had 63 applicants and selected 23)

10/01/2013



HOMER ADAMS AWARD

- Meant for deserving graduate students who participated in an ASHRAE sponsored RP
- Two applicants, with one selected for the award
- Announcement of recipient to be made later
in Feb.

10/01/2013



NEW INVESTIGATOR AWARD

- 13 researchers were nominated for the award (7 nominations last year)
- Applications were reviewed on January 18, with the selection of the winner; to be announced later *in Feb*

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ANNOUNCEMENTS

- Service to ASHRAE Research Award: no qualifying nominations were received this year
- New (shorter, more concise) RTAR submittal form to be used; can be found on the ASHRAE Research website
- It is important to obtain full TC vote accounting on approvals of submitted RTARS and WSs
- Work Statement submittals based on conditionally approved RTARs must include descriptions of how approval conditions were met

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Use Your Liaison

- Your Liaison should read your RTARs and WSs before you submit them.
 - But give them more than a couple days before the deadline
- Your Liaison can help you interpret RAC comments and the Research Manual
- Your Liaison is your champion!
 - He can advocate for you, if he is involved



Your Research Liaisons are ready to help you

- 1- Arthur Giesler
- 2- Harvey Sachs
- 3- Mark Spatz
- 4- Xudong Yang
- 5- Piotr A Domanski
- 6- Stephen Hancock
- 7- Phil Haves
- 8- David Yashar
- 9- Kishore Khankari
- 10- John Shonder



ASHRAE RESEARCH VISION: ASHRAE conducts timely research to remain the foremost.....international source of technical and educational information, standards, and guides on the interaction between people and the indoor and outdoor environment through the operation of HVAC&R systems in buildings and other applications.

ASHRAE RESEARCH STRATEGIC PLAN (2010-2015) addresses technical challenges that limit our ability to maximize building performance, energy efficiency, and indoor environmental quality, while minimizing our impact on the environment.



Research Administration Committee

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Section 8 Liaison:

There will be a Spring RAC meeting, but lots of administrative work on their agenda already. So, no 15 Feb deadline for RTAs/WSS. Next deadline is 15-May.

Appendix B
Chair's Breakfast Report
J. Kauffman

AGENDA
SECTION TC/TG/TRG CHAIR'S BREAKFAST MEETING

2014 Winter Meeting
 New York, NY

Sunday, January 19th
6:30 A.M. – 8:00 A.M. EST
New York Hilton Hotel Midtown

Section 1 , Madison Room, 2nd Floor	Section 2 , Concourse H Room, Concourse Floor
Section 3 , Concourse F Room, Concourse Floor	Section 4 , Holland Room, 4th Floor
Section 5 , Morgan, 2nd Floor	Section 6 , Section 6, Gramercy East Room, 2nd Flr.
Section 7 , Clinton Room, 2nd Floor	Section 8 , Bryant Room, 2nd Floor
Section 9 , East Room, 4th Floor	Section 10 , Concourse C Room, Concourse Floor

- I. CALL TO ORDER
- II. ROLL CALL AND INTRODUCTIONS (5 minutes)
- III. ADDITIONS AND/OR CHANGES TO THE AGENDA (5 minutes)
- IV. REVIEW MINUTES/NOTES, SPECIAL ASSIGNMENTS, ACTION ITEMS FROM LAST MEETING, AND NEW ISSUES (30 minutes).
 New Assignments:
 A. **To be determined**
- V. IDENTIFY SHARED OPPORTUNITIES AND CHALLENGES FOR SECTION (10 minutes).
 Society Strategic Plan? Research Strategic Plan?, Handbook workshop recommendations?, etc.
- VI. REVIEW SECTION MBOs (10 minutes).
 Discuss section and TC MBOs for this year and coming year and how the section can work together to address them or establish section and TC MBOs if not already done.
- VII. DISTRIBUTE WRITTEN INFORMATION AND REQUESTS FROM SOCIETY LIAISONS TO TC/TG/TRG CHAIRS (30 minutes).
Additional Announcements/Reminders:
 1. 2013-2014 Hightower Award Recipient – G.D. Mathur, TC 5.7
 2. Outstanding TC Award – NEW!
 3. YEA/TC Hospitality Sunday afternoon in New York
 4. 14-15 Roster update process & TC input deadline
 5. TC/TG/TRG Chair's Training Workshop Reminder
 6. Request for each TC to Review ASHRAE Code of Ethics
 7. Location of Section Head Mailboxes at this Society meeting
 8. Useful TC/TG/TRG Chair Information on ASHRAE website
 9. TC Master Calendar – Now Available through Google
 10. New MTGs that have been formed – MTG.HCDG (Hot Climate Design Guide)
 11. TC Representatives on MTGs are now validated by TC Chair via the TC roster update process
 12. TC Members are encouraged to volunteer with CEC to review technical papers for ASHRAE conferences
 13. CEC proposed or recently implemented technical program changes
 14. Report on TC/TG/TRG websites in Section (SHs need to report to TCs which sites are not up to date.)
 15. Special effort to welcome new members, and visitors (potential members) to TC meetings
 16. What type of webinar training modules would be useful to TC chairs?
 17. ASHRAExCHANGE
 18. Option for TC Subcommittee Meetings via Conference Calls and Web Meetings
 19. New TAC Presentation template for TC members to use with local Chapter
 20. Employment Discipline added to ASHRAE BIO Online Input Form
 21. E&P Beta Test #5 TC meetings being Held in New York
 22. New TC Activity Form
 23. Upcoming Program Submission Dates
 24. Upcoming Conferences

VIII. REMARKS FROM SOCIETY LIAISONS TO TC/TG/TRG CHAIRS

Liaison members from Research Administration, ASHRAE Program, Handbook, Standards, and other standing committees will have an opportunity to describe their committee activities that relate to the TC/TG/TRG functions, if time permits. Written announcements must be provided as a minimum by liaisons in order to have an opportunity to speak at this meeting.

**Announcements and Reminders for TC/TG/TRG & MTG Chairs
New York 2014**

1. 2013-2014 Hightower Award Recipient – G.D. Mathur, TC 5.5 & TC 5.7

G.D. Mathur has provided technical leadership to TC 5.5 (Air-to-Air Energy Recovery) and TC 5.7 (Evaporative Cooling) for more than twenty years in a variety of positions. He has written and revised both TCs' handbook chapters many times and has never missed a single handbook deadline. In the last four years, Mr. Mathur has been responsible for updating Two-Phase Thermosiphon Loop air-to-air heat transfer technology. When TC 5.5 was considering the elimination of the Thermosiphon section from its chapter in the ASHRAE Handbook, G.D. led the effort to reverse that decision.

Mr. Mathur's contributions to ASHRAE technical committees, especially to TC 5.5 and TC 5.7, in the last four years have been exemplary and make him a well deserving recipient of the George B. Hightower Award.

2. Outstanding TC Award – NEW!

TAC has developed a new award call the Outstanding Technical Committee Award. The purpose of the award is to recognize, annually, a single Technical Committee within each TAC Section that has the highest measured performance based on a set of weighted criteria as compared to other TCs within that same Section. The goal of this award is to reward TCs for the behaviors and activities that further the goals of TAC and exhibit excellence in the operation of a technical committee. The criterion used is a point system with values assigned to various metrics and activities, which are collected through an updated TC activity form. The award will serve to heighten TC Chair and committee member awareness of what activities are valued to encourage improved performance, and foster friendly competition between TCs within a Section.

3. YEA/TC Hospitality Sunday Afternoon in New York

Is your TC in search for new members? If so, please plan to attend the Young Engineers of ASHRAE (YEA) / TC Hospitality at the New York meeting on Sunday, 1/19, from 4 p.m. to 7 p.m. in the Petit Trianon room on the 3rd floor of the New York Hilton Midtown Hotel. Food and beverages will be available at this casual gathering as well as ice-breaker games to help get these young engineers of the Society talking with TC representatives at the event.

4. 14-15 Roster update process and process for adding provisional CMs

Remember, the current 2013-2014 roster for your TC, TG or MTG is in effect until after the June meeting this year. The new committee rosters for Society year 2014-2015 will be created based upon the update information that each TC, TG or MTG provides to their section head at this meeting by midnight, Tuesday, 1/21/14 and these new rosters will go into effect on July 1, 2014. Please see your section head for the 2014-2015 Roster Update form if you still need a copy.

By now, each TC, TG and MTG chair should have received a PDF & MS-Excel file of their current 2013-2014 roster from their Section Head for distribution to the committee. In addition, each member can view/download all of the rosters of their committees on the ASHRAE Website. Go to www.ashrae.org/MyActiveCommittees and log in (if you have not logged in lately, you might need to set up a new username and password). Make sure everyone on your committee also knows how to access the roster.

The Provisional Corresponding Member 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 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.

5. TC/TG/TRG Chair's Training Workshop Reminder

Sunday January 19, 9:45-10:45a in the Sutton Center Room (2nd floor) in the New York Hilton Midtown Hotel. As with the Breakfast meeting, both the Chair and Vice-Chair are expected to attend; attendance will be tracked so that we can assess who has been trained. Bring questions - if you need an answer, it's quite likely others also need the same answer. The main focus of this particular workshop will be the roster update process.

6. Request for each technical committee to briefly review ASHRAE Code of Ethics at start of TC meeting

See the following link for the latest version of the ASHRAE Code of Ethics: <https://www.ashrae.org/about-ashrae/> A hardcopy of the ethics is also attached to this document.

7. Location of Section Head Mailboxes at this Society meeting & Free WiFi Access at this Society meeting

Mailboxes are located just outside ASHRAE Headquarters Office (Nassau Room – 2nd Floor - New York Hilton Midtown Hotel).

Also, high speed wireless internet service will be available in meeting rooms and in public areas of the hotel this meeting compliments of ASHRAE. See Page 12 of program for log-in information.

8. Useful TC/TG/TRG/MTG Chair Information and forms on ASHRAE website

Information for TC/TG/TRG and MTG chairs can be found on the Technical Committee page of the ASHRAE website at the following link: <http://www.ashrae.org/standards-research--technology/technical-committees>

The TC/TG/TRG Manual of Procedures (MOP) has been revised to include a new committee type, Multidisciplinary Task Groups (MTGs). MTGs are different from TCs, TGs, and TRGs. The objective of the MTG is to first try to better coordinate and focus the activities of the affiliated TC and non-TC groups (EHC, REF, SSPCs, outside groups, etc) that make-up the MTG on the task for which the MTG was created without duplicating the functions of a TC or TG so that the task can be completed as efficiently as possible. In special cases, MTGs may also be authorized by TAC to assume some TC/TG functions, such as research, if it is deemed necessary to better complete their task assignment.

Since the need, purpose, and progress of each MTG is reassessed and reaffirmed by TAC each year, there are no term limits for the MTG Chair, Vice Chair, Members and Alternates.

9. TC Master Calendar – Now Available through Google

The Technical Committee Master Calendar is now available through Google. In order to access this calendar you need to have a Google account.

Once you log into your Google account, follow the instructions below:

To add a friend's calendar, just follow these steps:

1. At the bottom of the calendar list on the left, click Add and select Add a friend's calendar.
2. Enter the appropriate email address (techservices1791@gmail.com) in the field provided, then click Add.

This calendar is public and will appear under 'Other Calendars' in the left column.

To set up Google Calendar Sync to your Outlook:

1. Make sure you're using a supported operating system and Outlook version.
2. Download Google Calendar Sync (version 0.9.3.6) at http://dl.google.com/googlecalendarsync/GoogleCalendarSync_Installer.exe
3. Once a dialog box appears, click Save File. The downloaded file should open automatically. If it doesn't, manually open it from your browser's download window.
4. Click OK to confirm that you're aware this is an executable file.
5. Read through the Google Calendar Sync Terms of Service, and click I Agree.
6. Follow through the Installation Options and click Install to finish the set-up process.

Once Google Calendar Sync is installed on your computer, the Google Calendar Sync Settings window will appear:

In the Settings window, enter your email address and password and select the Sync Option you prefer. Read about each Sync Option.

You'll also be able to set the time interval for syncing to occur. Please keep in mind that 10 minutes is the minimum time interval allowed.

After the initial set-up, you can access the Google Calendar Sync Settings window again by double-clicking the calendar icon in your Windows System Tray.

10. **New MTGs that have been formed**

TAC approved the formation of the following new Multidisciplinary Task Group (MTG) at their fall meeting:

MTG.HCDG – Hot Climate Design Guide Development

Scope

MTG.HCDG will coordinate TC/TG/TRG technical activities to help support the technical basis, development, and publication of a "Hot Climate Design Guide." Responsibilities include the development of supporting research, presentations, and content for the "Hot Climate Design Guide" special publication.

The chair of this MTG is Frank Mills.

For more information on this MTG and the six other MTGs, please go to the MTG section on the following web page: <http://www.ashrae.org/standards-research--technology/technical-committees>

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.

11. TC Representatives on MTGs are now validated by TC Chair via the TC roster update process

TC chairs with voting representatives on a multidisciplinary task group (MTG) will no longer need to submit a letter each year to the TAC MTG Section Head as confirmation that they are satisfied with their voting representatives on MTGs and wish to appoint them another year to serve on the MTG. Instead, TC chairs will confirm their MTG representatives as part of the TC roster update process each January.

12. TC members are encouraged to volunteer with CEC to review technical papers for ASHRAE conferences

Provide to your Section Head after each Society meeting a list of qualified volunteers from your TC that are potential Technical Session chairs and reviewers of session papers that are related to TC's scope for use by the Conferences & Expositions Committee (CEC) in developing technical content for future technical programs.

13. CEC proposed or recently implemented technical program changes

TC Program Subcommittee Chair Training in New York

Please notify your program subcommittee chair that CEC will be offering training to them as follows in New York: Tuesday, 1/21, 11:15 a.m. – Noon, Harlem Room, (Fourth Floor) New York Hilton Midtown Hotel.

New Type of Program Created for ASHRAE Winter/Annual Conferences - Workshops

One hour long workshops consisting of first short presentations by subject matter experts and then discussion time with audience can now be proposed by TCs.

Program Focus at Seattle Annual Conference

The Seattle Conference Technical Program addresses broad topics in the application of technology to practice, specific applications in ground source heat pumps, O&M and indoor environmental quality, as well as new reports on research taking place worldwide. Specific program tracks are as follows:

- The Indoor Environment—Health, Comfort and Productivity Track
- The Ground Source Heat Pumps State of the Art: Design, Performance and Research Track
- The Installation, Commissioning, Operation, Maintenance of Existing Buildings Track
- The Refrigeration Track
- The Standards, Guidelines and Codes Track
- Professional Skills Track

The Seattle conference will also host the second annual ASHRAE Research Summit, which will present innovations in HVAC&R research with particular emphasis on high performance building design and its role in a clean energy economy, and brings together researchers to present and discuss the latest research. Researchers will present papers, seminars and forums or participate in panel discussions. Also, highlights on ongoing ASHRAE funded research will be presented.

Authors of some 200 Conference paper abstracts have been invited to submit papers for the Research Summit and Conference.

Seminar and Forum proposals for Seattle are due by Thursday, February 13, 2014. Please visit the following site to site your proposal:

<http://ashraem.confex.com/ashraem/s14/cfp.cgi>

Program Focus at Chicago Winter Conference

The Chicago Conference, January 24 – 28, 2015, has announced a call for papers. Conference paper abstracts are due March 24, 2014. If accepted, written conference papers due July 7, 2014. Technical Papers are due April 14, 2014.

Specific tracks are as follows:

- Systems and Equipment
- Fundamentals and Applications
- Industrial Facilities
- Large Buildings: Mission Critical Facilities and Applications
- Energy Efficiency
- Life Safety
- Design of Energy and Water efficient Systems
- Hospital Design and Codes

For more information, go to: www.ashrae.org/chicago.

14. Report on TC/TG/TRG websites in Section (SHs need to report to TCs which sites are not up to date.)

Is your committee website up to date? If not, please ask your webmaster to at least post the latest minutes and the New York meeting times and agenda. If your website has been neglected, add an action item for this meeting to appoint a responsible member of the TC/TG/TRG who will bring it back to life. This form of communication is critical to the efficient operation of your committee, and for attracting new members.

TAC and the Electronic Communications Committee (ECC) recently posted a webinar recording on how to set-up and maintain a basic TC website using the ASHRAE server and TC website template at the following link:

<http://media.ashrae.biz/webinar/TrainingWebinar.avi>

15. Special effort to welcome new members and visitors (potential members) to TC meetings

Potential new members for your committee have been encouraged to drop-by your meeting in New York. As a result, please make a special effort to recognize and warmly welcome all visitors to your meeting – A TC can never have too many willing and able volunteers.

16. What type of webinar training modules would be useful to TC chairs?

TAC is planning to develop, present, record, and post a series of short training webinars for TC chairs on topics such as voting rules, roster update, parliamentary procedures, etc. and they would like to know from TC chairs what other training topics are needed for this new program.

17. ASHRAExCHANGE

Please check out ASHRAE's new online forum/discussion board service and connect with other professionals in the built environment community on a variety of current discussion topics. <https://www.ashraexchange.org>

18. 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

19. New TAC Presentation template for TC members to use with local Chapter

The new 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.

20. Employment Discipline added to ASHRAE BIO Online Input Form

A new input field titled Employment Discipline has been added to the ASHRAE online member (BIO) graphical input form and TAC would like all TC members to self-declare their employment discipline prior to the Winter meeting in New York by going to the Members Only section

(<https://eweb.ashrae.org/eweb/DynamicPage.aspx?Site=ASHRAE&WebKey=8396a37a-9fc2-4f50-9332-5eebebe73494>) and enter their employment discipline information. The link should take you directly to the screen, which is located under demographics.

You will need your login and password to enter. Employment Discipline is located in the third section.

Employment Discipline	
category:	Government and Organizations ▼
discipline:	Not-for-Profit Organization (USGBC, Habitat, etc.) ▼

Once you have made the necessary updates, save the changes and logout.

Employment Disciplines:

Academic

Academic - Professor/Staff

Academic – Student

Government and Organizations

Government - Federal (e.g., DOE, EPA, USDA)

Government - National Lab (e.g., ORNL, NIST)

Government - Local (e.g., city or state governments)
 Not-for-Profit Organization (USGBC, Habitat for Humanity, etc.)
 Trade Association (ACCA, SMACNA, etc.)

Building Industry

Architect
 Building Owner / Management Firm
 Consultant
 Contractor
 Designer
 Facilities Manager/Operator

Manufacturing Industry

Manufacturer
 Manufacturer
 Manufacturer – Sales
 Manufacturer's Representative

Other

Model Code Organization
 Retired
 Utility
 Other

Thus far, approximately 25% of TC Members have declared their discipline.

21. E&P Beta Test #5 TC meetings being Held in New York

The 5th beta test of Electronic and Present (E&P) meetings, which allows some TC members to participate in the TC meeting from a remote location electronically, will occur in New York and the following TCs have agreed to participate in this test: TC 1.5, TC 2.2, TC 2.8, TC 4.2, TC 7.9, MTG.ET (RP-1561 PMS), TC 8.8, TC 9.2, TC 9.3 (RP-1603 PMS), and TC 9.9

The chairs of those TCs participating should provide to their Section Head feedback on their E&P meeting experience before TAC meets on Wednesday morning, 1/22.

22. New TC Activity Form

TAC has developed a new TC activity form that they would like all TCs to use at this meeting to report to their section head. Attached is a copy of this form for your use. Section heads can also provide an electronic copy of the form if requested.

23. Upcoming Program Dates

Seattle Meeting - June 28-July 2, 2014

- Seattle Seminar and Forum Session Proposals are due February 13, 2014
- Technical Papers final review due February 25, 2014
- All presentation files (PPT) due online – June 2, 2014
- Conference Website: <http://www.ashrae.org/seattle/>

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, the CEC seeks ideas for tracks for the Chicago meeting next year 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)

24. Upcoming Workshops and Conferences:

- **1st International Conference on Energy and Indoor Environment for Hot Climates**, February 24-26, 2014, Doha, Qatar. Contact: www.ashrae.org/hotclimates
- **49th AiCARR International Conference of 2014**, February 26-28, 2014, Rome, Italy. Contact: <https://www.ashrae.org/membership--conferences/conferences/ashrae-endorsed-events/2014/49th-edition-of-aicarr-international-conference-of-2014>
- **2014 International Sorption Heat Pump Conference (ISHPC2014)**, Mar. 31 – Apr. 3, 2014, College Park, MD, USA. Contact: <http://www.ceee.umd.edu/events/ISHPC2014/>
- **2014 ASHRAE High Performance Buildings Conference** – April 7-8, 2014, Hyatt Fisherman’s Wharf – San Francisco, CA USA. Contact: <http://www.hpbmagazine.org/hpb2014>. Call for Posters currently open through Feb. 21, 2014. Submit online.
- **Efficient, High Performance Buildings for Developing Economies** — April 24 - 25, 2014 - Manila, Philippines Contact: www.ashrae.org/Developing2014
- **11th International Energy Agency (IEA) – Heat Pump Conference**, May 12-16, 2014, Montreal, Canada. Contact: www.iea-hpc2014.org - See attached Registration brochure.
- **2014 ASHRAE/IBPSA-USA Building Simulation Conference**—September 10-12, 2014 – Atlanta, GA USA. Contact: www.ashrae.org/Simulation2014. Call for Presenters currently open through Feb. 10, 2014. Submit online.
- **ICR2015 - 24th IIR International Congress of Refrigeration** – August 16-22, 2015 – Yokohama, Japan. Contact: <http://www.icr2015.org> . Call for abstracts starts April 1, 2014 and ends Oct. 10, 2014.

ASHRAE Code of Ethics

(Approved by ASHRAE Board of Directors January 31, 2007)

As members of ASHRAE, we pledge to act with honesty, fairness, courtesy, competence, integrity and respect for others in our conduct.

Efforts of the Society, its members, and its bodies shall be directed at all times to enhancing the public health, safety and welfare.

Members and organized bodies of the Society shall be good stewards of the world's resources including energy, natural, human and financial resources

Our products and services shall be offered only in areas where our competence and expertise can satisfy the public need.

We shall act with care and competence in all activities, using and developing up to date knowledge and skills.

We shall avoid real or perceived conflicts of interest whenever possible, and disclose them to affected parties when they do exist.

The confidentiality of business affairs, proprietary information, intellectual property, procedures, and restricted Society discussions and materials shall be respected.

Each member is expected and encouraged to be committed to the code of ethics of his or her own professional or trade association in their nation and area of work.

Activities crossing national and cultural boundaries shall respect the ethical codes of the seat of the principal activity.

Appendix C
Emergency Roster Change
J. Kauffman

TC/TG/MTG/TRG EMERGENCY ROSTER CHANGE FORM

Instructions:

1. TC/TG/MTG/TRG Chair: Fill out form and forward electronic copy to TAC Section Head for approval.
2. TAC Section Head: Review/approve as necessary and forward approved form to Manager of Research and Technical Services (MORTS@ASHRAE.net) with a copy to the TAC Chair (TACchair@ASHRAE.net).
3. Emergency Roster changes cannot be accepted between March 1st and June 1st.
4. The following are considered to be valid emergencies:
 - Quorum is affected because a voting member can no longer attend meetings due to job change or long-term illness.
 - Resignation of Chair or MTG voting member
 - Two voting members become employed by the same company.
 - Error in roster due to mistake by ASHRAE staff.
 - Addition of new participating group to a MTG
5. The following are not considered to be valid emergencies:
 - Addition or removal of a new corresponding member or MTG alternate member.
 - Addition or removal of Voting member, non-quorum.
 - Addition or removal of a voting member when committee has sufficient membership (excludes MTGs)
6. Questions? Call/email your Section Head.

TC/TG/MTG/TRG: TC 8.5

Change Requested: Ebrahim Al-Hajri should be made chair beginning July 1, 2014.
Satyam Bendapudi should be made vice chair beginning July 1, 2014, instead of chair.
Satheesh Kulankara should be removed as vice chair.
Yang Zou should become secretary as submitted on roster update form.

Reason for Change: Ebrahim is currently vice chair and was expected to roll into chair position. However, he did not respond to an email questioning his desire to roll into chair position prior to the January meeting and was unable to attend the meeting. As a result, I submitted the roster assuming that he would be unable to roll into the chair position. He recently responded that he is willing and will be able to attend regularly, so I am requesting that he roll into the chair position. I have spoken with Satyam (who was submitted to be chair on roster update form) and Satheesh (who was submitted to be vice-chair on roster update form), and both are in support of this change.

TC/TG/MTG/TRG Chair:  **Date:** 5 May 2014

Section Head Approval: _____ **Date:** _____

Date Received:	HQ USE ONLY:	Approved? Yes No
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