

**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

These draft minutes have not been approved and are not the official, approved record until approved by this committee.

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

TC No. 8.5 DATE 10/08/2014

TC/TG/MTG/TRG TITLE Liquid-to-refrigerant heat exchangers
DATE OF MEETING 06/30/2014 LOCATION Seattle, WA

| MEMBERS PRESENT | YEAR APPTD | MEMBERS ABSENT | YEAR APPTD | EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE |
|----------------------|------------|---------------------|------------|--|
| Justin P. Kauffman | 2009 | Kaushik Oza | 1997 | Kenneth J. Schultz |
| Omar. A. Abdelaziz | 2009 | Ebrahim S. Al-Hajri | 2009 | Sankar Padhmanabhan |
| Satyam Bendapudi | 2011 | | | Joseph B. Huber |
| Satnislav Perencevic | 2009 | | | Yirong Jiang |
| Evraam Gorgy | 2012 | | | Achim Gotterbarm |
| Lorenzo Cremaschi | 2009 | | | Satheesh Kulankara |
| Andreas Knoepfler | 2007 | | | Will Asher |
| Benjamin E. Dingel | 2001 | | | Lindsey King |
| James T. Schaefer | 2011 | | | Michaer Gorer |
| Steven J. Eckels | 2003 | | | Kashif Nawaz |
| Samuel F. Yana-Motta | 2004 | | | Stefan Elbel |
| | | | | Yang Zou |
| | | | | Shenghan Ji |
| | | | | Chao Shen |
| | | | | Florian Hudelmaier |
| | | | | Karine Brand |
| | | | | Vikrant Aute |
| | | | | |

DISTRIBUTION

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

| | |
|--|---|
| TAC Section Head: | Stephen Duda |
| TAC Chair: | William McQuade |
| All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters: | Donald Brandt, Patrick Marks, David Yashar, Francis Mills, Rick Larson |
| 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 Liquid – Refrigerant Heat Exchangers Annual Meeting, 30 June 2014 (Seattle, WA)

Call to Order

TC Chair Kauffman called the meeting to order at 4.18pm and read the TC 8.5 TPS.

Attendees introduced themselves and signed-in.

Confirmation of Quorum

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

Members present:

J. Kauffman, 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, K. Oza

Section Head Comments (S. Duda)

S. Duda introduced himself. Reaffirmed the TC recognition program. Selection will be in Fall with a presentation in Chicago. Rosters were updated this past cycle. On Wednesday 7/2 the new roster comes into effect. A brief report to fill out for the TC Meeting is due by Tuesday evening.

Can take back concerns questions can be relayed to TAC via email.

Recognized J. Kauffman for serving as TC Chair for 2 years and presented a certificate of appreciation.

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. S. Eckels moved to approve. O. Abdelaziz moved to add point regarding adding S. Eckels as incoming program chair.

J. Schaefer seconded.

7 approved, 1 abstain.

Report from Membership sub-committee (K. Oza)

Ebrahim, Satyam, Kash, Justiin, Stanislav, Lorenzo, Samuel, Evraam, Andreas, will be members.

Report from Program Sub-Committee (S. Eckels)

S. Eckels relayed importance of the new tracks lay out. We had ideas that were submitted but did not come through and can't be put back in. Papers are more effective rather than Seminars. Called for groupings or paper ideas.

The webinar on *Fundamentals of Air-distribution in a Room* – attended by 10,000+ - opportunity to use this format for future programs.

O. Abdelaziz recommended submitting papers related to hx'rs for low GWP refrigerants as discussed in NYC. S. Eckels to follow-up with the volunteers; asked for Chicago tracks. J. Schaefer relayed the list – proposed under Systems and Equipment. A. Knoepfler recommended not showing evolution of surfaces to low GWP.

S. Eckels volunteered to chair the session; J. Kauffman proposed submitting for approval and recommended submitting as one collection rather than individual. Proposed title – Fundamental Applications in Liquid-Refrigerant Heat Exchangers.

L. Cremaschi relayed that per TAC Chair comments, a seminar is unlikely for Chicago. A discussion ensued regarding how submitted papers may be mis-assigned to TC's. TC members asked for better coordination in the submission process. S. Eckels still recommended going for a Seminar and volunteered to explore during the Program SC training next day. K. Schultz proposed presenting the papers during the Research Sub-Committee meeting time slot if the seminar is rejected by TAC.

Atlanta papers – deadline September. Any ideas?

J. Schaefer proposed looking at effect of constant heat flux, constant temperature and system implications for Atlanta. E. Gorgy moved, A. Knoepffler seconded. 7/8 approved, 1 abstained.

S. Eckels volunteered to corral a sub-group from the TC to explore further ideas.

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

Standard 22: “*Methods of Testing for Rating Water-Cooled Refrigerant Condensers*” The Standard was approved for publication in NY and published. An oversight in the download link for the Excel calculator missing; will be available in the second edition. Available in bookstore.

Standard 181P: “*Methods of Testing for Rating Liquid-to-Liquid Heat Exchangers*” Galley proofs submitted for voting and awaiting response. No issues anticipated. Download link confirmed to be included.

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

Chair voiced appreciation for Joe's efforts and thanked him.

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

S. Bendapudi will review Liquid Coolers chapter & M. Ohadi for condensers.

Lorenzo's work on fouling characterization to be included. Sankar proposed including a section on refrigerant glide in condensers and evaporators; volunteers sought to draft.

Deadlines for chapters 39 and 42 are May 2015 and June 2015 respectively.

These will be voted out in Chicago or via email ballot. The recommendation is to distribute drafts in advance of vote with enough time to review, especially if adding a new section.

Report from Webmaster (J. Huber)

No updates. The website is functional and has everything required by ASHRAE. Content contribution from TC members is requested and appreciated.

Report from MTG Liaison (J. Kauffman)

J. Kauffman relayed the charter and objectives of the MTG, that it serves to plan programs and coordinate across multiple TC and monitor activities of IIR on LCCP.

Chair appreciated V. Aute's efforts to put together a mini-conference, and relayed that of the 5 papers proposed, only one was accepted and deemed not adequate to move forward.

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

B. Dingle reported on RP-1677. A progress report was presented on 6/29. PMS Chair's comments follow:

The summary went well; while the PI was not in attendance, his graduate student made the presentation; the project is just getting started and the literature review has been completed. The design of the test system has been completed, several tele-cons were held to interact with the PMS to guide the project team.

The importance of temperature mixing relayed to the team. The team was guided to generate a mapping of variation of heat transfer coefficient with mass flow rate and heat flux, using smooth tubes, prior to launch of test protocol. PMS will continue to have interim meetings with project team. L. Cremaschi raised question about disclosure of the geometry in the final report. Tube supplier will review to report prior release. A. Knoepfner assured that basic geometry information will be allowed. Research liaison was copied on all correspondence related to information protection on the project. The test facility is to be completed by the end of August and the plan is to start testing in October. Forecast is to finish testing by June 2016. K. Schultz appreciated B. Dingle for keeping the dialog active with the project team and guiding them.

K. Schultz submitted the RTAR on Heat Transfer Performance for Medium Pressure Low GWP Refrigerants in Tube Bundles and it has been approved. J. Kauffman to lead authorship on Work Statement, S. Bendapudi volunteered to contribute.

Other ideas for RTAR's:

Behavior of LGWP in

- sprayed evap bundles
- cond bundles – K. Schultz volunteered to draft.
- plate-type evaps
- in-tube (DX) evaps.

Evaluation of tube cleaning processes and techniques

Impact of oil on flooded coolers; TC 8.2 has submitted to do a field survey and the RTAR was approved in NYC. TC agreed to wait to see data from that before proposing ideas for 8.5.

Call for research topics.

S. Eckels asked if/how the Society new strategic plan impacts us. K. Schultz relayed that RTARs should stay with 2014-15 strategic plan, as communicated during the Research Chair's breakfast.

Summary of Research breakfast highlights (notes attached as Appendix A):

There is now a nice balance now between RTAR's & WS's & research funding available. There are 63 active projects worth \$11M; 16 projects completed since June. 12 projects are on the tentative block – ready for release to bid. No projects are on hold.

9 RTARs were submitted, 5 accepted, 4 rejected.

8 WS's evaluated, 4 conditionally accepted, 4 returned with comments.

4 tentative project bid packages to be evaluated

2 URPs under review by TC's

A simplified fillable form has been released to draft the RTARs. The vision is changing of what an RTAR is, i.e. that it is a request to pursue the topic as worthy of research; Yes/No will be relayed going forward with no negotiation if rejected.

A change to the bid evaluation process for the PES is underway. The RAC is going to distribute the bids without disclosing the amount of the bid. In a first pass, the PES will evaluate bids strictly on technical criteria. After bidders have responded to queries and updated their bids, bid costs will be made visible to the PES for further recommendation. The intent appears to be to mitigate the potential for evaluators to be influenced by the dollar values on the bids.

In response to a question about whether ASHRAE has a preference to include facility building within proposal, K. Schultz relayed that nothing was explicitly stated. S. Eckels suggested letting the PI's figure out what's needed and not include it explicitly in the WS.

ASHRAE is to conduct a study on benefits of stds and committees based on needs of consulting engineers, in response to feedback that they're not happy with the difficulty of using the standards.

S. Duda, as Research Liaison, will be looking for volunteers for the research advisory council.

Chair recognized K. Schultz's long standing service as the Res chair and thanked him.

Chairs comments:

J. Kauffman reported following highlights from the Chair's breakfast (detailed notes attached as Appendix B). Not many new revelations or actions. There is a new MTG being formed on building dampness. If anyone wants to participate on behalf of TC8.5, please volunteer.

Electronic TC meetings are being beta-tested.

Incoming chairs, vice-chairs etc., are recommended to please attend training sessions to help them understand roles and responsibilities of positions they're moving in to.

There is a list of the tracks for the Atlanta meeting to be attached to the minutes.

20 upcoming workshops and conferences.

J. Kauffman to relay the notes to Eckels before minutes are compiled so he can prepare the program.

S. Eckels recommended maintaining a list of volunteers for paper reviewers for this TC.

New Business

None

Adjourn

Meeting adjourned at 5.55pm with a unanimous vote.

Appendix A
Research Sub-Committee Report
K. Schultz

TC 08.05 RESEARCH REPORT – JUN 2014 / SEATTLE

The joint TC 1.3/8.5 Research Review Meeting was held on Sun 29-Jun from 3:00pm to ~4:00pm. Status/updates were presented for TC 8.5's 1667-RP and TC 1.3's 1556-RP. Continuing discussion of research topics occurred during the TC 8.5 Committee meeting on Mon 30-Jun.

Active Research Projects

1677-RP – Measurement and Prediction of Waterside Fouling of Internally Enhanced Condenser Tubes in Cooling Tower Applications PI: Dr Xinlei Wang w/research associate Chao Shen, 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, Jon Cohen.

The literature review was reported to be completed. Design of the test shells and supporting facility is also completed. The three test shells will be fabricated by Alfa Laval (Joe Huber as point of contact). The tubes to be tested have been discussed and selected. Tube specimens will be supplied by Wieland (Andreas Knoepfler as point of contact). It was decided to use a set of enhanced tubes (rather than plain tubes) during shake-down testing. These milestones were aided by several teleconference calls and numerous email communications between UIUC and the PMS since the New York meeting.

Facility construction is projected to be finished by 31-Aug. Facility shake-down will occur during Sep with testing to begin 01-Oct. Testing is now projected to run through Sep 2016.

Two questions were raised from experience on 1345-RP. 1) The tubes will be grouped by level of performance. Saturation temperature will be adjusted to give similar levels of heat flux. Still, there will be some variation in tube wall temperatures. Might this impact and confound the fouling rate? 2) Will the clean tube performance be mapped over a range of operating conditions so as to provide an adequate basis for comparison as performance moves due to the effects of fouling?

Prospective Research Projects

The 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 approved by email ballot in late Apr and submitted to MORTS on 02-May for consideration by RAC at the Seattle meeting and assigned number 1731. Our research liaison stated that RAC approved the RTAR. Justin indicated that he would target completing the Work Statement by the 15-Dec submission deadline for consideration by RAC at the Chicago meeting. Ken and several others offered to assist with development of the Work Statement.

Our list of potential research topics includes (each looking for an author/champion):

- 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 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.

Consensus from the discussion during the TC 8.5 meeting was that a tube bundle condensation project with low GWP refrigerants would be a nice complement to the bundle boiling project (1731-RTAR).

There was also discussion on the topic of how to deal with the question of test facilities (existing versus new) in work statements. There have been comments from RAC that ASHRAE does not fund construction of new test facilities. There were thoughts that if a proposal included new facilities but fit into the estimated budget, then it should be considered.

Notes from Research Breakfast

The slides from the Research Breakfast are attached. ASHRAE currently has 63 active research projects with a total value of \$10.8M. Since Jun-2013, 16 projects have been completed, 20 new projects were approved for funding with 19 already under contract, and 12 TRP's released for bid. There is now a more normal balance between proposed research and available funding.

In Seattle, RAC evaluated 9 RTAR's with 5 accepted with comments and 4 rejected with comments. Eight work statements were evaluated with 4 conditionally accepted and 4 returned with comments. One additional WS was to be evaluated on Wed. Two URP's are under review by RAC and TCs.

Beginning with the Seattle meeting, RTAR's will either be "accepted" or "rejected"; RTAR's will no longer be recycled. Accepted RTAR's might (likely) come with comments that will need to be addressed in the work statement. If a TC judges an RTAR was incorrectly rejected, it is possible to resubmit the RTAR (will be given a new number). It is likely that modifications will be needed to address concerns; our liaison can offer advice in these cases.

The proposal evaluation process is changing. When the PES receives that package of bids, the bid values will be withheld. The PES will judge/grade the proposals strictly on the technical criteria laid out in the RFP, without regard to the bid amounts. Once the technical review is completed (PES members do their individual grading, followed by group discussion and grade adjusting) and the PES chair has compiled the results/averages, the bid values will be revealed. The lowest bid that meets the "70" grade threshold will likely be the recipient. It will still be possible to select a higher bid if sufficient justification is found.

ASHRAE has released a new Strategic Plan. Beginning Jul 2015, RAC will form an advisory committee to establish a new Research Strategic Plan. Until that is published, RTARs and WSs should continue to be based on the 2010-2015 Research Strategic Plan.

RAC is discussing possible avenues for co-funding outside projects. There is no process to do this now. The next deadline for RTARs and WSs is 15-Dec-2014.



Research Subcommittee Chairs' Breakfast Presentation

Annual Meeting 2014 – Seattle
Donald Bivens, Vice Chair
Monday, June 30, 2014



Research Administration Committee

19-01-2014

1



***MANY THANKS TO
AGAMI REDDY &
PIOTR DOMANSKI***



Research Administration Committee

29-06-2014

2



***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 2014



Research Administration Committee

2014-2014

1



Agenda

- Current Research Projects
- WS, RTAR, TRP, and URP Status
- Your RAC liaisons
- RAC Continuous Improvement
- ASHRAE Strategic Plan 2014

2014-2014



Research Administration Committee

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Balanced position between RTAR/WS^m flow & funding.




Current Research Projects

- We have **63** active RPs
- **Total value \$ 10.8 million**

Since June 2013:

- **16** projects were completed.
- **20** new projects approved for funding (19 have been contracted)
- **12** Tentative Research Project (TRPs) released for bid (no projects on-hold due to funding)

19-01-2014

 Research Administration Committee



RTAR, WS, TRP, & URP Status

- At Seattle, RAC evaluated **9** RTARs
5 accepted with comments; 4 rejected with comments
- RAC evaluated **8** WS
4 conditionally accepted; 4 returned with comments (1 other WS to evaluate on Wed)
- **4** TRP bid packages to evaluate on Wed.
- **2** URPS under review by RAC and TCs

19-01-2014

 Research Administration Committee



Your Research Liaisons

- 1- Arthur Giesler
- 2- Harvey Sachs
- 3- Mark Spatz
- 4- Xudong Yang
- 5- Ricardo Esbri*
- 6- Stephen Hancock
- 7- Phil Haves
- 8- David Yashar
- 9- Jeff Gatlin*
- 10- John Shonder

Page 2011

 Research Administration Committee

* new



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!
 - can advocate for you, if involved

Page 2011

 Research Administration Committee

When PES receives bid packages, bid values will be withheld. - "Blind" review. Technical ~~value~~ only. PES chair compiles results/averages. Then amounts are announced. WS criteria for judging. Handbook is suggestions only.



RAC CONTINUOUS IMPROVEMENT

- Simplified RTAR form and approval requirements (is the topic suitable for ASHRAE funding?)
- Increase communications with liaisons on RTAR/WS submissions & reasons for returns
- Liaison collaboration with other liaisons or outside 'experts' for best RTAR/WS reviews
- Research Manual Section 6 Instructions for PES (contractor selection) revised/clarified

19-01-2011

Accepted or Rejected.
No recycling.

VM&CM can attend PES-to-TC contractor selection/recommendation discussions. Bidders, etc. should be excluded. Discussions/result are confidential.



19-01-2011

RAC discussing possible avenues for cofunding outside projects. No process now. Maybe 6 mo - 1 yr.

MBO: Management By Objectives.



ASHRAE Strategic Plan 2014

- Initiatives assigned (to establish MBOs and action plans for upcoming year)
- RAC to participate in study of benefits of ASHRAE standards & technology, focused on needs of consulting engineers
- Beginning July 2015, RAC will form an advisory committee to establish new ASHRAE Research Strategic Plan

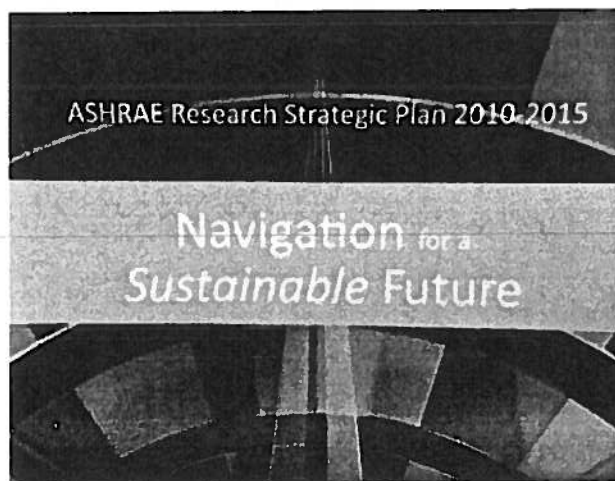
19-01-2014

11

~~RTARs: Accept or Reject - no negotiating.~~



RTAR & WS submissions continue to be based on 2010-2015 Plan



19-01-2011

12



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

19-01-2014

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Appendix B
Chair's Breakfast Report
J. Kauffman

Announcements and Reminders for TC/TG/TRG & MTG Chairs Seattle 2014

1. 14-15 Rosters Access & Distribution

Remember, the current 2013-2014 roster for your TC, TG or MTG is in effect until after the June meeting this year – through Wednesday, July 2nd.

By now, each TC, TG and MTG chair should have received a PDF & MS-Excel file of their new 2014-2015 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. 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 Your 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 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.

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

Sunday June 29, 9:45-10:45a in Room #608 (6th floor) in the Washington State Convention Center. This session will be a repeat of the same content that was presented on 6/20 via a webinar for individuals that could not make that webinar. As with the Breakfast meeting, both the Chair and Vice-Chair are expected to attend if they did not attend the webinar; 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. We are also interested in hearing your feedback if you attended the webinar. The

main focus of this particular workshop will be the voting process and how to use the new activity form.

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

Mailboxes are located just outside ASHRAE Headquarters Office (Issaquah Room – 3rd Floor – Sheraton Seattle Hotel).

Also, Internet access and computers for e-mail are available in the Cyber Café located in the registration area during operating hours. Please be considerate to others and limit your usage to five minutes. Within the convention center there are free Wi-Fi hot spots. Level 1 in the seating area near the Seattle Visitors Center; Level 2 in the International Meeting Place and Level 4 in the seating areas near Subway and Tougo.

Internet is also available complimentary in your sleeping room in the Sheraton.

Wireless internet will be available in all meeting rooms at the Sheraton. ASHRAE will be working with the internet provider to manage the bandwidth so that member expectations of accessibility and speed are fulfilled. We would like to request that everyone limit their usage to functions that do not use excessive bandwidth such as Facebook, YouTube, streaming video, etc. Access code is **ASHRAE2014** and the code is case sensitive.

5. 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/tcs>

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.

6. 2014-2015 Hightower Award Nomination Process and Deadline

Nominations for the 2014-2015 George B. Hightower Technical Achievement Award are due to you Section Head by **September 1, 2014**. 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>

2014-2015 Service to ASHRAE Research Award Nomination Process and Deadline

Nominations for the 2014-2015 Service to ASHRAE Research Award for TC volunteer efforts in research are due to RAC research liaison by **September 30, 2014**. 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>

7. New MTGs that have been formed

TAC approved the formation of the following new Multidisciplinary Task Group (MTG):

MTG.BD, Building Dampness

Scope: MTG.BD will develop a definition of a damp building and an assessment protocol to assess building dampness in accordance with Recommendation #3 of the ASHRAE Board of Directors’ 2013 position document titled *Limiting Indoor Mold and Dampness in Buildings*. The group will also propose research to test the practicality, utility and cost-effectiveness of the protocol, and oversee that research if such is approved. The MTG will publish the protocol in ASHRAE transactions for use as appropriate by the building professions, the public health community and by the public at large.

The chair and vice chair of the MTG is Lew Harriman and Brad Stanley, respectively.

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/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.

8. 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 start of the new Society year on July 1, 2014** 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.

The screenshot shows a web form titled "Employment Discipline". It contains two dropdown menus. The first is labeled "category:" and is set to "Government and Organizations". The second is labeled "discipline:" and is set to "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 **28%** of TC Members have declared their discipline.

9. E&P Beta Test #6 TC meetings being Held in Seattle

The 6th 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 Seattle and the following nine TCs have agreed to participate in this test: TC 1.5, TC 2.2, TC 7.9, TC 4.2 (RP-1561 PMS), TC 8.4, 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, 7/2.

10. TC Volunteers Sought to Support Content Development and Quality Control for Society Technical Program at Society Meetings

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.

TC Program Subcommittee Chair Training in Seattle

Please notify your program subcommittee chair that CEC will be offering training to them as follows in Seattle: Tuesday, 6/29, 11:15 a.m. – Noon, Room 614, (Sixth Floor) Washington State Convention Center.

- 11. CEC Seeks Program Track Ideas for the Orlando 2016 meeting and Beyond**
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 Orlando 2016 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)

- 12. 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 Seattle 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>

- 13. Special effort to welcome new members, and visitors (potential members), particularly international members, to TC meetings**

Potential new members for your committee have been encouraged to drop-by your meeting in Seattle. 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.

- 14. Thank You Letters to Employers**

ASHRAE President – William Bahnfleth – has offered to send letters to the employers of TC volunteers this year thanking them for supporting their employee's service on an ASHRAE TC during Society year 2013-2014. If requested by the volunteer, the letter will be sent to his/her employer by the end of July or early August and the volunteer will receive a copy.

Please let your committee members know that they will be receiving an email about employer thank you letters in early July with details on how to request a thank you letter.

- 15. 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

16. Upcoming Program Dates & Atlanta Program Tracks

Chicago Meeting - January 24 - 28, 2015

- Chicago Seminar and Forum Session Proposals are due August 11, 2014
- Revised conference papers / Final Technical Papers due August 18, 2014
- Conf. and Tech. Paper Final Accept/Reject Notifications sent August 25, 2014
- Seminar, Forum, Workshop Accept/Reject Notifications sent September 8, 2014
- All presentation files (PPT) due online – January 2, 2015
- Conference Website: <http://www.ashrae.org/chicago/>

Seminar and Forum proposals for Chicago are due by Monday, August 11, 2014.

Please visit the following site to submit your proposal:

<http://ashraem.confex.com/ashraem/w15/cfp.cgi>

Atlanta Meeting - June 27 – July 1, 2015

- Conference Paper Abstracts Due are due September 22, 2014
- Technical Papers initial drafts due September 22, 2014
- Conference Paper Abstract Accept/Reject Notifications sent October 6, 2014
- Website Opens for Seminar, Forum and Workshop Proposals on January 5, 2015
- Final Conference Papers Submitted for Review due January 5, 2015
- Conference Website: <http://www.ashrae.org/atlanta/>

Program Focus at Atlanta Annual Conference

- Track 1: HVAC&R Systems and Equipment
This track solicits papers and presentations on all aspects of HVAC&R Systems and Equipment. Efficiency is always important, so information on new and improved equipment and systems offering improved efficiency is particularly welcome.
- Track 2: HVAC&R Fundamentals and Applications
Fundamental information and applications of fundamentals related to all aspects of HVAC&R are welcome. This can range from fundamental psychrometrics to combustion, system and envelope fundamentals and beyond.
- Track 3: Research Summit
This track will continue the highly successful Research Summit tracks pioneered at Denver and Seattle. Research results related to any aspect of heating, cooling and other energy uses in buildings are solicited.
- Track 4: Refrigeration
Refrigeration is a critical element of modern life, from preserving our food to maintaining comfort. The ozone depleting potential of the older refrigerants has led to adoption of non-ozone depleting refrigerants, with the focus now shifting to refrigerants with low global warming potential. These factors when combined with multiple drivers toward energy efficiency may lead to a diverse set of different refrigerants and processes for different cooling applications. This track will have presentations and papers from all areas of

refrigeration and will particularly explore related technologies that will reduce the use of traditional refrigerants including evaporative cooling and desiccants.

- Track 5: Building Operation, Maintenance and Optimization/Commissioning
Operation and maintenance have always accounted for a major portion of building expenses and a much smaller level of engineering effort aimed at controlling these expenses. Over the last one to two decades, there has been an increasing realization that real engineering applied to operation, maintenance and operational optimization or “commissioning” can bring increased comfort and offers huge financial returns. This track solicits papers and presentations related to any and all aspects of this topic.
- Track 6: Indoor Air Quality
Indoor air quality has become a vital consideration during all phases of a building’s life. It is closely linked to comfort and to occupant satisfaction, productivity and health. This track seeks presentations and papers that explore these links, particularly in ways that make the case for high levels of indoor air quality compelling to building owners.
- Track 7: Modeling throughout the Building Life Cycle
Modeling was originally concerned primarily with building and system design specifications. The demands of energy efficient operation brought about the need for modeling of part-load operation for a variety of off-design conditions. The explosion of computational capacity and data collection capability is rapidly expanding the scope, complexity and practical applications of modeling both during design, but even more so for fault detection, diagnostics and operational optimization. Thirty years ago, people were dreaming of doing some of the things that Building Information Modeling is now bringing to reality. Presentations and papers are solicited related to all aspects of building modeling, with a particular interest in successful applications that have extended modeling into operational phases of the building life cycle.
- Track 8: High Performance Buildings
This track seeks papers and presentations on the design and measured performance of high performance commercial and industrial buildings in North America and around the world. There are numerous examples of buildings designed for high performance that have fallen considerably short of the design intent and papers that identify reasons for these shortfalls are of particular interest.
- Track 9: Moving Advanced Energy Design Guidance to the Mainstream
This track focuses on the Advanced Energy Design Guides, with a circulation of over 500,000, and other like methods for reaching a broad audience with advanced energy efficiency. The target is a 50% reduction in energy. Papers and sessions focus on methods for using the guides including actual building case studies, educational curriculum, and other documented uses to move the market towards energy efficiency. Also, papers and sessions focus on the methods to create the guidance.

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

17. Retiring TC/TG/TRG Chair Certificates

TC chairs that are completing their terms as chair at this Society meeting will be presented with a certificate of appreciation. Please coordinate with your Section Head as to when and where at the meeting you would like to be presented with the certificate (Section meeting or TC meeting).

18. 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/ashrae-code-of-ethics> A hardcopy of the ethics is also attached to this document.

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. TC Involvement in ASHRAE Standard and Guideline Development Process is Encouraged

Standards Committee would like to encourage involvement by the TCs in the development of ASHRAE standards and guidelines. There are many ways that members can get involved in the standards process. This includes becoming members of the project committees, reviewing documents when they have been issued for public review, attending project committee meetings as interested parties, signing up for the Standards Action listserv or requesting the appointment of a TC liaison to the project committee. Standards Committee highly recommends that at least one member of each TC sign up to follow the Standards Action listserv to monitor progress of standards and guidelines of interest to the TCs. To sign up for the Standards Action listserv please go to <https://www.ashrae.org/resources--publications/free-resources/listserves>. For additional information on interactions between TCs and PCs please see the training presentation posted here: <https://www.ashrae.org/standards-research--technology/technical-committees>.

21. 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. Section heads will provide electronic copies of the activity form to all TC chairs in section.

22. 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.

23. Upcoming Workshops and Conferences:

2014

- **13th International Conference on Indoor Air Quality and Climate (Indoor Air 2014)** – July 7 -12, 2014 – Hong Kong, China. Contact: <http://www.indoorair2014.org/>
- **Purdue University International Compressor Engineering, Refrigeration and Air Conditioning, and High Performance Buildings Conference** - Jul 14 - Jul 17, 2014 - Herrick Labs Purdue University West Lafayette, IN, USA, Contact: <https://engineering.purdue.edu/Herrick/Events/2014Conf>
- **CATAAR 2014** - September 10-12, 2014 – Centro Miguelete, Buenos Aires, ARGENTINA. Contact: <http://www.aafrio.org.ar/>
- **2014 ASHRAE/IBPSA-USA Building Simulation Conference** – September 10-12, 2014 – Atlanta, GA USA. Contact: www.ashrae.org/Simulation2014.
- **ICEBO 2014 (Int'l Conference for Enhanced Building Operations)** - September 14 – 17, 2014 - Tsinghua University; Beijing, CHINA. Contact: <http://icebo.tamu.edu/home>
- **AHR Expo-Mexico 2014** - September 23 – 25, 2014 - Mexico City, Mexico. Contact: <http://www.ahrepomexico.com/eng/>

- **International Conference on Efficient Building Design: Materials and HVAC Equipment Technologies** — October 02 - 03, 2014 | Beirut, Lebanon. Contact: <https://www.ashrae.org/Beirut2014>
- **ROOMVENT 2014** - October 19 - Oct 22 , 2014 - São Paulo, Brazil — Contact: <http://www.roomvent2014.com.br/>
- 2015
- **Advanced HVAC and Natural Gas Technologies** - May 6 – 8, 2015 - Radisson Blu Hotel, Riga, LATVIA – Contact: <http://www.rtu.lv/en/>
- **2015 HVACR & Mechanical Conference for Education Professionals** - May 6 – 8, 2015 - Baltimore, Maryland – Contact: <http://www.instructorworkshop.org/default.aspx>
- **ICR2015 (24th IIR International Congress of Refrigeration)** - August 16 – 22, 2015 - Yokohama, JAPAN – Contact: <http://www.icr2015.org/index.html>
- **Cold Climate 2015** - October 20 – 23, 2015 - Dalian, CHINA – Contact: <http://www.coldclimate2015.org/>
- **11th International Conference on Industrial Ventilation** - October 26 – 28, 2015 - Shanghai, CHINA – Contact: <http://www.ventilation2015.org/>
- 2016
- **CLIMA 2016** - May 22 – 25, 2016 - Aalborg, DENMARK – Contact: <http://www.clima2016.org/welcome.aspx>

24. TAC Requests your feedback on new roster procedures

If you have any feedback on the new roster update procedures, please pass them on to your Section Head.

25. Survey your TC to develop a list of “how to” training modules which are needed.

TAC is developing short recorded training webinars for posting in the ASHRAE website .

26. TCs need to submit requests for E&P virtual meetings well in advance of Society meetings to assure best chance for participation.

Submit your E&P meeting request to Mike Vaughn (MORTS@ashrae.net)

27. Ask TCs to List Handbook chapters that TC has responsibility for and any specific issues or problems they have in making updates

28. REMIND: TC’s to participate and post on ASHRAExchange.org

29. REMIND: Program Subcommittee chairs to attend training (7/1, 11:15a-12:00p, Room 614 (6, WSCC)

30. REMIND: Research Subcommittee chairs to attend breakfast (6/30, 6:30a-8:30a, Grand Ballroom C (2, Sheraton)

31. **REMINDER: Draft TC agendas are to be sent at least 30 days prior to a meeting. Draft TC minutes are to be posted no later than 60 days after meeting.**

ASHRAE Code Of Ethics

(Approved by ASHRAE Board of Directors January 30, 2013)

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

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

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

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

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

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

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

G. 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.

H. 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