



**DISTRIBUTION**

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|--|--|
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**MEETING MINUTES**

1. Call to Order at 2:20 pm on June 29, 2015.
2. Introduction of Attendees, Liaisons, Officers and Guests.
  - Attendance sheet circulated
  - Quorum established, 6 of 9 voting members present
3. Reviewed TC8.2 Mission Statement and Scope.
  - Scope and mission statement **Appendix A.**
4. Review/Approval of Chicago minutes (meeting date January 26, 2015)
  - Unanimous approval 6-0.
5. Reports:
  - 5.1 Program Subcommittee F. Betz
    - Fred reviewed attached report **Appendix B.** Notes in red were added from this TC Committee Meeting.
  - 5.2 Handbook Subcommittee J. Kauffmann
    - Revised Compressor Chapter (38) was approved 6-0 for 2016 Handbook.
    - Will distribute Liquid Chilling Systems Chapter (43) to subcommittee and to voting member in July for committee approval.
    - Justin suggested doing out of sequence smaller scope changes in the future.
  - 5.3 Standards Subcommittee S. Hanson
    - Susanna reviewed attached report **Appendix C.**
  - 5.4 Research Subcommittee M. Adams
    - Mark reviewed attached report **Appendix D.**
  - 5.5 Membership F. Betz

- Fred reviewed attached report **Appendix E**.
- 5.6 Honors and Awards R. Heiden
- Fred reviewed attached report **Appendix F** on behalf of Rick Heiden.
- 5.7 Web Master M. Rogan
- Fred recognized improvement in TC Website.
- 5.8 Section 8 Chair's Breakfast F. Betz
- Fred reviewed meeting summary **Appendix G**.
  - A new MTG was recently approved by TAC, named MTG.O&MEE (Operations and Maintenance Activities That Impact Energy Efficiency).
  - John Vucci was approved to be TC 8.2 representative (6-0).
6. Old Business  
None
7. New Business
- Recognized Stephen Duda for writing an outstanding paper on building energy audits.
  - New section head will be Dustin Meredith.
  - Phil Johnson suggested adding MTG Report to agenda next meeting.
8. For the Good and Well Being...
9. Adjournment at 4:00pm

Respectfully submitted by: \_\_\_\_\_  
Forrest Yount

## Appendix A-Scope and Mission

### Scope

TC 8.2 is concerned with packaged equipment which involves centrifugal compressors, including those heat exchangers, drivers, controls and accessories, which are specific to packaged centrifugal equipment. TC 8.2 is also concerned with the design and performance of centrifugal compressors, steam turbines and gas turbines for use in refrigerating applications.

### Mission

The mission of Technical Committee 8.2, Centrifugal Machines, is to provide world class technical expertise on all aspects of centrifugal refrigeration machines. This committee is a resource to industry, academia, and others following society protocols through seminars, standards, technical papers/articles and other presentations.

## Appendix B-TC 8.02 Program Subcommittee Report

### TC 8.02 Program Subcommittee Report

#### 2015 Annual Meeting, Atlanta, GA

Subcommittee Meeting: June 28, 2015 / 5:00 to 6:00 pm

Attendees: Ray Good, Katelyn Balmer, Satyam Bendapudi, Dwayne Johnson, Jeb Schreiber, Justin Kauffman, John Vucci, Phil Johnson, Michael Foster, Ankit Setki, Forrest Yount, Fred Betz

#### CEC Update:

- **Deadline** for Seminar/Forum submissions is **August 10, 2015 for Orlando (2016 Winter)**. TCs will be notified of acceptance or rejection of Seminar/Forum submissions September 11, 2015. Tracks for Orlando are:
  - Systems and Equipment
  - Fundamentals and Applications
  - Design Build
  - International Design
  - Standards, Guidelines, and Codes
  - Cutting-Edge Technologies
  - The Great Debate
  - Modern Residential Systems
  
- **Deadline** for new Conference Paper Abstracts and Conference Paper Session Proposals for **St Louis (2016 Annual) is September 14, 2015 and the final papers are due Jan 4, 2016**.

#### Recent Past Programs:

- Seattle Summer 2014: Chiller Efficiency and Standard 90.1 - *Where Do We Go From Here* - Susanna Hanson Chair and speaker; Dick Lord speakers. 8:00 – 9:30, Tuesday.
- Seattle Summer 2014: Seminar Operating and Maintaining Oil Free Chillers - Phil Johnson Chair and speaker; Ryan Geister speaker. 1:30 – 3:00, Tuesday
- Chicago 2015 co-sponsor of Seminar 30 titled “What the F-gas Is Going on in Europe: What the HFC Phasedown Means for Our Industry”.

Atlanta 2015 Programs:

- Seminar for Atlanta 2015: Seminar 7, Sunday 11:00 – 12:30, Chiller Sequencing Challenges. Jay Eldridge is Chair. Speakers are Steve Taylor, Susanna Hanson and Andrew Price. We will use this as an “Intermediate” level back-to-basics seminar.
- Seminar for Atlanta 2015: Seminar 20, Monday 8:00 – 9:30, Centrifugal Compressor Design – Back to Basics. Fred is Chair. Speakers are Mike Patterson, Jeb Schreiber, and Julian DeBullet. Course to cover the “internals” and operating characteristic of the centrifugal compressor.

Planned or Future Programs:

- Proposed Seminar for Orlando 2016: Centrifugal Chiller Design – Back to Basics. Four suggested subtopics are Heat Exchanger Components, Chiller Controls, Lift versus VFD Surge, and Overall Chiller Operation. Julian DeBullet will do the heat exchanger presentation and Seth Gladfelter will do the Overall Chiller Operation presentations. Rick Heiden agreed to chair this seminar. Fred will verify with Rick that he will still chair it. **Susanna Hanson agreed to be third speaker.**
- Proposed Paper Session for St Louis 2016. Andrew Price volunteered to write a paper on High Temperature Heat Recovery Chillers. Ray Good volunteered to write a paper on Air Cooled Centrifugal Chiller. Mark Adams will obtain a writer / presenter from JCI for a paper. As stated above, abstracts for these papers will need to be submitted by September 14 to get into the St Louis meeting.
- Proposed Seminar for St Louis meeting: *Introduction to Standard 184 MOFT for Chillers* to be submitted when Std. 184 is released. Rick Heiden to Chair: *Possible speakers – Robert Blanton, Phil Johnson, John Vucci.* The Standard is expected to be approved by the St Louis meeting. We will verify status of the Standard before Orlando and determine in Orlando if that Seminar is still a go for St Louis or will be moved to Las Vegas.

Future Conferences:

- A Seminar on Guideline 22 regarding measurement of kW per ton for Chiller Plants was suggested. TC 9.1, Large Buildings is also interested in presenting on this topic and joint Seminar cosponsorship will be proposed to them. John Vucci and John Kuempel from TC 9.1 will be speakers. We will target this Seminar for St Louis or Las Vegas.
- Another topic suggested for a “Back to Basics” Seminar is Lift versus VFD. This will be targeted for Las Vegas or possibly for St Louis as continuation in our B to B series.
- Our committee will try to develop a “paper” or speaker for one of the sessions regarding the RP project that was completed but no paper ever received. We would like to put together a paper session for future presentation. We need volunteers to develop several papers for that session.
- All committee members – feel free to send suggested topics for Sessions.
- **Ray Good suggested have a seminar on refrigerants in St. Louis. Julian Dubullet volunteered to chair and Barbara Miner volunteered to present.**

Old Business

- Volunteer Peer Reviewers for Conference Papers: Phil Johnson, Justin Kauffman, Ray Good, Susanna Hanson, Riyaz Papar, Fred Betz, Paul Kozlov, Mike Zamalis, Rick Heiden.

New Business

- Ray Good will take over as Chair for the Programs Subcommittee after the Atlanta Meeting.

Next Meeting

- Subcommittee will meet in Orlando or by Conference Call before Orlando.

Respectfully submitted by:

Fred Betz  
TC 8.02 Program Subcommittee Chair June 29, 2015  
email: [fbetz@pedcoea.com](mailto:fbetz@pedcoea.com)  
phone: 513 378-1394 (cell)

**Appendix C-TC 8.02 Standards Subcommittee Report**

Time: **Monday, June 29, 2015 2:15 PM – 4:15 PM**  
Location: **Atlanta, GA**

**Standards SUBCOMMITTEE REPORT**

**SSPC 90.1** Susanna Hanson

New chiller efficiency table took effect 1/1/2015. Work continues on the 2016 version.

AHRI is directed to prepare efficiency targets for heat recovery and heat reclaim chillers that are not currently covered by the scope of 90.1, in time for consideration at the 90.1 interim meeting in Atlanta in April 16-18, 2015. October 2015 is the last meeting for a proposal to be voted on by committee, and still make the 2016 Standard. This has been requested for several cycles. The 550/590-2013 update provided test procedures and/or rating points for this class of equipment.

In the absence of a model code, states are beginning to use 550/590 rating conditions to develop their own requirements. It would be better/preferable to have a model code derived from the 90.1 Standard.

An addendum was voted out for public review (likely to start in July 2015) for plant efficiency monitoring and reporting.

**SPC 184P** Mark Baines

We expect to be in a position to vote for publication public review of the draft of Standard 184 by the end of our committee meeting on Tuesday, June 30<sup>th</sup>, 2015.

**SPC 30** Rupal Choksi

The SPC is being asked by Standards Committee to have a public review draft no later than the conclusion of the June 2015 ASHRAE Annual Meeting in Atlanta.

Rupal advises that the committee is expected to vote for public review today. As of the TC meeting, this vote will have already occurred with outcome to be reported. Letter ballot for two remaining voting members, subject potentially to recirculation ballot.

*SPC 30 voted (5-0-0-2) to recommend to SPLS to publish the committee draft for a publication public review of 45 days (after 5 days for non-substantive formatting and editorial changes).*

### **SPC 147-196P Mark Adams**

Standard 147 is now on continuous maintenance and there is a list of requested changes. Meeting Tuesday June 30<sup>th</sup>. 196P is MOT for leakage in HVAC equipment, expectation that they could vote for public review in Orlando.

Respectfully Submitted,

Susanna Hanson,  
TC 8.2 Standards Subcommittee

## **Appendix D-TC 8.02 Research Subcommittee Report**

### **Research S/C Chair Breakfast notes of interest**

- ASHRAE has 61 active research projects with a total value of \$10M.
- Since July 1, 2014 11 projects were completed, 11 new projects were approved for funding, and 13 Tentative Research Projects were released for bidding. (no projects are on hold due to funding)
- RAC evaluated 9 RTAR's – Accepted – 3, Accepted with comments – 4, rejected - 2.
- RAC reviewed 8 work statements – Accepted - 5; Returned – 1; Rejected -2
- 8 TRP's under review.
- 4 URPS are under review by RAC.
- Implementing new stage funding and projecting monitoring process to improve the check and balances in the payment of instigators. Additional details about phased payments will be required for the WS and proposal and then the PMS will be authorizing the release of payments.

### **Current Activities**

Research Subcommittee meeting was held on Sunday June 28, 2015.

Attendees: M. Adams, J. Kauffman, F. Betz, R. Good, S. Bendapudi, K. Balmer, D. Johnson, M. Foster, A. Sethi, J. Schreiber, P. Johnson, J. Vucci, F. Yount, and H. Sheinma.

### **Project Status**

- **1677 - Measurement and Prediction of Waterside Fouling Performance of Internally Enhanced Tubes in Cooling Tower Applications**
  - We are cosponsoring a study being undertaken by TC 8.5 on fouling of enhanced tubes. Looking at a smooth bore tube and multiple enhanced surface tubes. Scope includes testing, providing a model of the results, and a simulation calculation methodology. The work in this project over the last several months has focused on some modifications to the laboratory setup to try and obtain better baseline heat transfer data for condensation of a 3 tube condenser “bundle” as well as

acquiring parts and constructing additional loops (3 total heat pump/condenser loops) needed for the data collection phase of the project. There are still some questions about the initial data; Improvements have been made, but results are not consistent with the expected performance of the tubes being used for test loop setup and evaluation. Current plans are to begin fouling data collection in September.

- **1716 - Oil concentration of field-installed liquid chillers with flooded type evaporators.**
  - RTAR has been approved to proceed to the next stage. RAC returned some comments to be incorporated into the Work Statement. Justin Kauffman will take the lead on this effort.
  - Draft WS was reviewed at the Sunday night meeting. Justin has some feedback and will incorporate these changes into another draft. The current plan is to continue work on the WS and set up a conference call within the next month to review and hold further discussion. Will then be sending out for a letter ballot in order to meet the submission to RAC for the October meeting.
  
- **Development of Method of Test for Motor Component Thermal Conductivity**
  - Rick developed a draft RTAR for research of heat transfer of motor components for hermetic motors in refrigerant. This would develop correlations for motor manufacturers to use for motor design.
  - Motor thermal RTAR was co-sponsored by TC 8.1 and TC 1.11.
  - RTAR will be submitted to RAC by December 15th.

#### **Future Activities**

- We will continue to solicit additional ideas.

Respectfully submitted,  
Mark Adams  
June 29, 2015



**Appendix E-TC 8.02 Membership Subcommittee Report**

| Period Beginning             | 1/1/2015   | 7/1/2015   | 1/1/2016           | 7/1/2016    | 1/1/2017  | 7/1/2017 |
|------------------------------|------------|------------|--------------------|-------------|-----------|----------|
| <b>COMMITTEE ASSIGNMENTS</b> |            |            |                    |             |           |          |
| Chair                        | Heiden     | Betz       | Betz               | Betz        | Betz      | Yount    |
| Vice – Chair                 | Betz       | Yount      | Yount              | Yount       | Yount     |          |
| Secretary                    | Yount      | Kauffman   | Schreiber - Heiden | Schreiber   | Schreiber |          |
| Program                      | Betz       | Good       | Good               | Good        | Good      |          |
| Standards                    | Hanson     | Hanson     | Hanson             | Hanson      | Hanson    |          |
| Research                     | Adams      | Adams      | Adams              | Adams       | Adams     |          |
| Handbook                     | Kauffman   | Rogan      | Rogan              | Rogan       | Rogan     |          |
| Webmaster                    | Rogan      | Abbas      | Abbas              | Abbas       | Abbas     |          |
| Membership                   | Heiden     | Yount      | Yount              | Yount       | Yount     |          |
| Honors and Awards            | Heiden     | Heiden     | Heiden             | Heiden      | Heiden    |          |
| MTG.LowGWP Liaison           | Johnson    | Johnson    |                    |             |           |          |
| MTG.LowGWP Alternate         | Kontomaris | Kontomaris |                    |             |           |          |
| MTG.O&MEE                    |            | Vucci      | Vucci              |             |           |          |
| <b>VOTING MEMBERS</b>        |            |            |                    |             |           |          |
|                              | 1          | Heiden     | Hanson             | Hanson      |           |          |
|                              | 2          | Betz       | Betz               | Betz - x    |           |          |
|                              | 3          | Yount      | MacBain            | MacBain - x |           |          |
|                              | 4          | Kauffman   | Kauffman           | Kauffman    | Kauffman  | Kauffman |
|                              | 5          | Good       | Good               | Good - x    | Good      | Good     |
|                              | 6          | Kontomaris | Rogan              | Rogan       | Rogan     | Rogan    |
|                              | 7          | Abbas      | Abbas              | Abbas - x   | Abbas     | Abbas    |
|                              | 8          | Choski     | Choski             | Choski - x  | Choski    | Choski   |
|                              | 9          | Price      | Price              | Price       | Price     | Price    |
|                              | 10         |            | Vucci              | Vucci - x   | Vucci     | Vucci    |
|                              | 11         |            | Duda               | Duda - x    | Duda      | Duda     |
|                              | Non-Quorum |            | Johnson            | Johnson - x |           |          |

Respectfully submitted,  
 Rick Heiden  
 April 29, 2015

**Appendix F- HONORS AND AWARDS SUBCOMMITTEE REPORT**

Recent Awards:

Distinguished Service Award:

**Susanna Hanson** was awarded for her service at the Atlanta meeting. Susanna has served on TC 8.2 for nearly a decade and has kept our committee on track with respect to recent and trending standards actions.....Thank you!

Planned activity:

Andrew T. Boggs Service Award:

Plan to submit **Julian De Bullet** and **Tom Watson** as candidates

George B. Hightower Technical Achievement Award:

Plan to resubmit **Phil Johnson** for Orlando (submitted for Chicago)

If any member of TC 8.2 knows of another member of our committee who they feel are eligible and are not listed above, please let me know. That includes you. You work hard and volunteer for ASHRAE and should be recognized for that!

Respectfully Submitted,



Rick Heiden,  
TC 8.2 Honors and Awards Subcommittee

**Appendix G-Chair's Breakfast Report**

**Announcements and Reminders for TC/TG/TRG & MTG Chairs  
ATLANTA 2015**

**A. NEW!**

- 1. PCM Process** - The process for adding new PCMs to TC rosters and notifying all affected parties has now been automated through the ASHRAE website. Potential new TC members now just need to click on the **JOIN A TC** button at the top of the TC page ([www.ashrae.org/tcs](http://www.ashrae.org/tcs)) on the ASHRAE website to get started.
- 2. New Easier to Use Standard Website Template in Development** - We are working with the Society's Electronic Communication Committee (ECC), staff, and a consultant to modernize and streamline the template for TC websites. This will include WIZYWIG editing, automatic rosters and simplified document uploading. There will be no more HTML editing. We have a preliminary design and will be working with several volunteer beta testers from various TCs to finalize the design and operation. Anticipate release sometime in the fall of 2015.
- 3. Coming Soon! - New TC E-mail Position Aliases for 15-16 Society Year** - We are in the process of creating new position e-mail alias addresses for each of the remaining mandatory positions of the Technical Committee management team (Secretary, Standards Sub. Chair, Program Sub. Chair, Handbook Sub. Chair, and Webmaster). The process will take 4-6 weeks. In the meantime, we ask that you review your membership profile to ensure that your email address

is up-to-date. Your profile can be accessed by logging onto the “Member’s Only” section at [www.ashrae.org](http://www.ashrae.org). The 15-16 E-mail Alias list will then be distributed to the TCs once this work is complete.

#### **4. RAC Prioritizing Research Topics Related to the Residential Sector**

Starting in the 2015-2016, RAC will be prioritizing for bid accepted research topics that support Goal #3 below from the Research Strategic Plan.

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

### **B. AT THIS MEETING**

#### **1. On-Site Training**

i. **TC/TG/TRG Chair’s Training Workshop Reminder - Sunday June 28, 9:45-10:45 AM** in Salon C Room (2nd floor) in the Atlanta Hilton Hotel. This session will be a repeat of the same content that was presented in a 6/12 via a webinar for individuals that could not make this 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 also. The main focus of this particular workshop will be on ASHRAE Tools for TCs.

ii. **RAC’s Research Subcommittee Chair’s Breakfast – Monday, 6/29, 6:30 AM**

Please encourage your Research Subcommittee Chair or another representative from the TC to attend this meeting so that your RAC Research Liaison (RL) can get an update on the TC’s research activities and so that your RL can help resolve issues & questions that TC may have concerning their research program. The training portion of this meeting will focus on the duties and responsibilities of Project Monitoring Subcommittee (PMSC) Chair. After the meeting, RAC plans to record this training presentation and post to the ASHRAE website as a new training webinar that current and new PMSC chairs can access at any time.

iii. **TC Program Subcommittee Chair Training in Atlanta - Tuesday, 6/30, 11:15AM – Noon**, Room 315, (3rd Floor) Atlanta Hilton Hotel. *Don’t complain about the meeting program and your TC’s submissions if you have not been to training.*

A few things you might learn in training are as follows:

- Incomplete program submissions is the biggest reason for rejection now. All information is needed up front for CEC selection process.
- A packaged session on a similar topic is the best way to greatly improve your chances for acceptance.
- There is no difference in how CEC handles 60 and 90 minute program slots. 60 minute slots are just as good as 90 minute slots if complete.

**2. RAC Forum #3 – Is the ASHRAE Research Process Efficient?**

Do you have a good idea for how the ASHRAE Research Program and its current processes could be improved? If so, members of the ASHRAE Research Administration Committee (RAC) would very much like to talk to you more about your idea in Atlanta at the forum below.

Monday, June 29

11:00 A.M. to 12:00 PM

Forum 3 – Is the ASHRAE Research Process Efficient  
206/207 Room – 2nd Floor – Atlanta Hilton Hotel

**3. Location of Section Head Mailboxes at this Society meeting & Free Wi-Fi Access at this Society meeting** - Mailboxes are located just outside ASHRAE Headquarters Office (208/209 – 2nd Floor – Atlanta Hilton 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.

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

Wireless internet will be available in all meeting rooms at the Hilton. 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. Applications such as Facebook, YouTube, streaming video, etc. use excessive bandwidth. Access code is ASHRAE2015 and the code is case sensitive.

- 4. 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)
- 5. E&P Beta Test #8 TC meetings being Held in Atlanta** - The 8th 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

Atlanta and the following ten TCs have agreed to participate in this test: TC 1.5, TC 2.2, TC 4.2 (RP-1561 & RP-1699 PMSC), TC 5.8, TC 6.8, TC 7.9, TC 8.4, TC 8.8, TC 9.2, TC 10.2

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, 7/1.

### **C. UPCOMING DEADLINES**

- 1. Thank You Letters to Employers** - ASHRAE President – Thomas Phoenix – 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 2014-2015. 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.

- 2. 2015-2016 Hightower Award Nomination Process and Deadline** - Nominations for the 2015-2016 George B. Hightower Technical Achievement Award are due to you Section Head by September 1, 2015. 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, Forms...” heading: <http://www.ashrae.org/tcs>
- 3. 2015-2016 Service to ASHRAE Research Award Nomination Process and Deadline** - Nominations for the 2015-2016 Service to ASHRAE Research Award for TC volunteer efforts in research are due to RAC research liaison by September 1, 2015 (new date). 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>
- 4. Seminar and Forum proposals for Orlando are due by Monday, August 10, 2015.** Please visit the following site to submit your proposal: <http://ashraem.confex.com/ashraem/w16/cfp.cgi>

For more information, go to: [www.ashrae.org/orlando](http://www.ashrae.org/orlando).

- 5. CEC requests for Program Tracks** - The Conferences and Expositions Committee (CEC) oversees ASHRAE’s annual and winter conferences and other specialty conferences and expositions globally. The CEC continually works to improve the conference experience for all attendees. To help keep a “pulse” on the technical issues facing professionals in the HVAC&R

marketplace, and to create meetings that reach all of ASHRAE's constituencies, the CEC seeks ideas for tracks for the Las Vegas 2017 meeting and annual and winter conferences beyond as well as topics for specialty conferences from TC members.

Please submit your suggestions to ASHRAE Staff member Tony Giometti ([Giometti@ashrae.org](mailto:Giometti@ashrae.org)). You can also add your track suggestion in the "Comment" section of the TC Activity form for the Atlanta meeting.

#### **D. REMINDERS**

- 1. 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, 2015 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.

Thus far, approximately 30.6% (up 2.6% since Seattle meeting) of TC Members have declared their discipline.

- 2. TC Volunteers willing 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.
- 3. 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](mailto:mvaughn@ashrae.org) or [MORTS@ashrae.net](mailto:MORTS@ashrae.net)
- 4. 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 Atlanta 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>

5. **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. 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.
6. **15-16 Rosters Access & Distribution** - Remember, the current 2014-2015 roster for your TC, TG or MTG is in effect until after the June meeting this year – through Wednesday, July 1st.

By now, each TC, TG and MTG chair should have received a PDF & MS-Excel file of their new 2015-2016 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) <<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 (PCM) position is a relatively new position on TC/TG/TRG rosters. This position allows potential new members to be added by staff to the committee roster any time a request for membership is made by an individual. The position has a 2-year term on the committee. Staff will notify the chair and reissue a new roster to the committee chair any time a provisional member is added. The TC/TG/TRG chair has the option each year during the regular roster update process to convert provisional CMs that have been active participants on the committee the past year into regular CMs or voting members or drop them. If no action is taken, they will time expire from the roster and be removed by staff.

**7. 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.

**8. 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/>

**E. RECENT ANNOUNCEMENTS**

**1. Outstanding TC Award** - TAC will continue in the 2015-2016 Society year with the new Outstanding Technical Committee Award. The purpose of the award is to recognize, annually, a single Technical Committee within each TC 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.

**2. Recent MTGs that have been formed** - TAC approved the formation of the following new Multidisciplinary Task Group (MTG):

MTG.O&MEE – Operations and Maintenance Activities That Impact Energy Efficiency

Scope: MTG.O&MEE will coordinate TC/TG/TRG activities to help support the application of ASHRAE guidelines, Standards and other technical resources to support regulatory bodies, utilities, building owners and others who are attempting to enhance efficiency of existing buildings. Responsibilities include



suggestions for research, development and presentation of technical programs of all types on maintenance and its impact on energy consumption and efficiency. It will be especially involved with interactions with those who are introducing and evaluating strategies for building efficiency enhancements.

For more information on this MTG and the six other active 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](mailto:MORTS@ashrae.net).

3. **Standard 203-2014 now available for use and reference** - Standard 203-2014, Method of Test for Determining Heat Gain of Office Equipment Used in Buildings, is published. The Chair of SPC 203, Glenn Friedman, would like to make other project committee chairs aware of it and possibly reference it in other standards. For questions please contact Glenn Friedman, [gfriedman@taylor-engineering.com](mailto:gfriedman@taylor-engineering.com), (510) 263-1542 direct, (510) 220-5895 mobile.”
4. **Recent updates to the TC MOP (Manual of Procedures)** - Part 4 – Meetings of the Manual of Procedures (MOP) for ASHRAE technical committees (TCs/TGs/MTGs/TRGs) has been revised to clarify that attendance at technical committee meetings and subcommittee meetings must be open, except as allowed for by executive session procedures, and that an interim meeting is allowed with proper notification.

Section and 2.5.1.4 (1) has been amended to allow one Voting Member non-quorum to count towards the minimum number of voting members in Section 2.5.1.1, which is currently 6 voting members.

Section 5.1.2 has been amended to clarify how quorum is established for TCs with only six members and some designated a Member Non Quorum.

See the following link for the latest version of the TC MOP  
<http://www.ashrae.org/tcs>

5. **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. This form can be downloaded from the Technical Committee webpage under the “TC Forms and Documents” page - <https://www.ashrae.org/standards-research-technology/technical-committees/tc-forms-and-documents> . Section heads can also provide an electronic copy of the form if requested.

**6. 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.

**7. 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:

- At the bottom of the calendar list on the left, click Add and select Add a friend's calendar.
- 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:

- Make sure you're using a supported operating system and Outlook version.
- Download Google Calendar Sync (version 0.9.3.6) at
- [http://dl.google.com/googlecalendarsync/GoogleCalendarSync\\_Installer.exe](http://dl.google.com/googlecalendarsync/GoogleCalendarSync_Installer.exe)
- 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.
- Click OK to confirm that you're aware this is an executable file.
- Read through the Google Calendar Sync Terms of Service, and click I Agree.
- 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.

## **F. UPCOMING ASHRAE CONFERENCES**

**1. Program Focus at Atlanta Annual Conference** - The Atlanta Conference Technical Program addresses broad topics in the application of technology to practice, specific applications in hydronic heating systems, variable refrigerant flow systems, O&M and indoor environmental quality, as well as new reports on research taking place worldwide. Specific program tracks are as follows:

- Building Operation, Maintenance, and Optimization/Commissioning Track
- High Performance Building Track
- HVAC&R Fundamentals and Applications Track
- HVAC&R Systems and Equipment Track
- Indoor Air Quality Track
- Laboratories Track
- Modeling throughout the Building Life Cycle Track
- Moving Advanced Energy Design Guidance to Mainstream Track
- Refrigeration Track
- Research Summit Track

The Atlanta conference will also host the third 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.

## **2. Orlando Meeting - January 23 - 27, 2016**

- Orlando Seminar and Forum Session Proposals are due August 10, 2015
- Revised conference papers / Final Technical Papers due August 21, 2015
- Conf. and Tech. Paper Final Accept/Reject Notifications sent August 28, 2015
- Seminar, Forum, Workshop Accept/Reject Notifications sent September 11, 2015
- All presentation files (PPT) due online – January 4, 2016

- Conference Website: <http://www.ashrae.org/orlando/>

### 3. St. Louis Meeting - June 25 – June 29, 2016

- St. Louis Conference Paper Abstracts Due are due September 14, 2015
- Technical Papers initial drafts due September 14, 2015
- Conference Paper Abstract Accept/Reject Notifications sent October 5, 2015
- Website Opens for Seminar, Forum and Workshop Proposals on January 4, 2016
- Final Conference Papers Submitted for Review due January 4, 2016
- Conference Website: <http://www.ashrae.org/stlouis/>
- Conference Program Chair: Tom Kuehn Email: [kuehn001@umn.edu](mailto:kuehn001@umn.edu)

#### Program Focus at St. Louis Annual Conference

- i. Track 1: Advances in Refrigeration Systems and Alternative Refrigerants  
Track Chair: Frank Schambach  
Email: [frankschambach@mindspring.com](mailto:frankschambach@mindspring.com)  
This track seeks papers and programs that explore the wide range of refrigeration systems under development with special emphasis on the use of alternative refrigerants in vapor compression machines to address environmental concerns.
- ii. Track 2: Research Summit  
Track Chair: Jeffrey Spitler  
Email: [spitler@okstate.edu](mailto:spitler@okstate.edu)  
The fourth annual Research Summit seeks papers that report results on any aspect of ASHRAE-related research including heating, cooling, ventilation, other energy uses in the engineered environment and associated environmental aspects.
- iii. Track 3: Fundamentals and Application  
Track Chair: David E. Claridge  
Email: [dclaridge@tamu.edu](mailto:dclaridge@tamu.edu)  
Fundamental information and applications of fundamentals related to all aspects of HVAC&R are welcome. This can range from psychrometric properties and processes to combustion, controls, HVAC system and envelope fundamentals and beyond.
- iv. Track 4: HVAC Systems and Equipment  
Track Chair: Alan Neely  
Email: [alan\\_neely@pghcorning.com](mailto:alan_neely@pghcorning.com)  
This track will include presentations on best practices to implement traditional, non-traditional, and hybrid approaches to achieve successful

HVAC&R systems design. Objectives include high performance systems and equipment, LEED certified designs and sustainable buildings.

- v. Track 5: Smart Building Systems/Remote Monitoring and Diagnostics  
Track Chair: Samir Traboulsi  
Email: [traboulsi.samir@gmail.com](mailto:traboulsi.samir@gmail.com)  
Smart buildings address HVAC&R equipment operation (chiller sequencing, soft start), integration into complete systems and can potentially interface with multiple building complexes and micro grid operation. This track includes papers on advanced communication protocols, system integration, BMS tools, data management and analysis.
  
- vi. Track 6: Indoor Environment: Health, Comfort, Productivity  
Track Chair: Dennis Alejandro  
Email: [denzjac@yahoo.com](mailto:denzjac@yahoo.com)  
Buildings and other enclosed spaces are increasingly required to provide safe, healthy environments in an energy efficient manner. Papers in this track will review the balance between environmental health and energy efficiency in buildings and help define future education, policy and research directions.
  
- vii. Track 7: Professional Skills Beyond Engineering  
Track Chair: Rachel Romero  
Email: [rachel.romero@nrel.gov](mailto:rachel.romero@nrel.gov)  
This track seeks to ensure professional skills are being developed and maintained beyond engineering essentials. Emphasis will be placed on meeting the professional development and business needs of today and converting them into the building blocks of tomorrow's success.
  
- viii. Track 8: Renewable Energy Systems and Net Zero Buildings  
Track Chair: Kevin Gallen  
Email: [kevin@gallenengineering.com](mailto:kevin@gallenengineering.com)  
Wind, hydroelectric and solar are just a few of the alternative and/or renewable energy sources that are being used in HVAC design as we strive for Net-zero and high efficiency buildings. This track will address recent advances in alternative energy systems and equipment and new design strategies for achieving Net-zero buildings.

## **G. UPCOMING WORKSHOPS AND CONFERENCES**

### **1. 2015**

- i. ISHVAC-COBEE 2015: 9th International Symposium on Heating, Ventilation and Air Conditioning (ISHVAC) and 3rd Conference on Building Energy and Environment (COBEE) - July 12 – 15, 2015 - Tianjin, CHINA – Contact: <http://www.cobee.org/>

- ii. ICR2015 (24th IIR International Congress of Refrigeration) - August 16 – 22, 2015 - Yokohama, JAPAN – Contact: <http://www.icr2015.org/index.html>
- iii. Cold Climate 2015 - October 20 – 23, 2015 - Dalian, CHINA – Contact: <http://www.coldclimate2015.org/>
- iv. 11th International Conference on Industrial Ventilation - October 26 – 28, 2015 - Shanghai, CHINA – Contact: <http://www.ventilation2015.org/>
- v. IBPSA 2015 (14th International Conference of the International Building Simulation Conference) – December 7 – 9, 2015 - Hyderabad, INDIA – Contact: <http://www.bs2015.in/>

## 2. 2016

- i. International Air-Conditioning, Heating, Refrigerating Exposition (AHR Expo) – 2016 - January 25 – 27, 2016 - Orlando, FL – Contact: <http://www.ahrexpo.com/>
- ii. CLIMA 2016 - May 22 – 25, 2016 - Aalborg, DENMARK – Contact: <http://www.clima2016.org/welcome.aspx>
- iii. IAQVEC 2016 (9th International Conference on Indoor Air Quality Ventilation & Energy Conservation in Buildings) – Oct. 17 – 19, 2016 - Seoul, SOUTH KOREA – Contact: <http://iaqvec2016.org/>

## Appendix F – MTG.LowGWP Status Report, Phil Johnson

### Activity areas of this MTG:

- Planning seminar(s) for technical programs
- Monitoring & summarizing research efforts
- Encouraging development of LCCP models

### Meetings

MTG.LowGWP held meetings as follows:

- 28-Jan-2015, Chicago, IL
- 27-May-2015, teleconference
- 1-Jul-2015, Atlanta, GA (planned)

### Technical Programs

No Atlanta programs sponsored by MTG.LowGWP.

MTG previously proposed a mini conference as a group of related seminar sessions but the submittal request was not accepted. The tentative title was “Lower GWP Refrigerants and their Applications in HVAC&R”. The program for June 2016 (St. Louis) will have a track for refrigerants, will target several programs for that meeting.

### Research

Research projects of interest to TC 8.2:

**1580-RP:** Study of Input Parameters for Risk Assessment of 2L Flammable Refrigerants in Residential Air Conditioning and Small Commercial Refrigeration Applications. This research is complete and the final report is published. ASHRAE technical paper NY-14-039 was presented at the New York conference in the poster session.

**1583-RP:** Assessment of Burning Velocity Test Methods.

**1584-RP:** Assessment of Alternative Approaches to Predicting the Burning Velocity of Refrigerants. Project is complete, final report in the approval process as of the New York meeting.

*[note: completed research project final reports are available at ASHRAE [research web site](#) ]*

**1731-WS:** Heat Transfer Performance of Medium Pressure Alternative Lower GWP Refrigerants In Flooded Evaporator Comprising an Enhanced Tube Bundle. WS in process, 1<sup>st</sup> draft due 15-May-2016.

### LCCP

Working group formed for LCCP discussions (sharing status of LCCP model development for different types of equipment, assessing future needs).

IIR Working Group on LCCP Evaluation. Six Working Party meetings have been held. Meeting documents are available online at the [IIR web site](#).

## Membership

Current MTG.LowGWP representation from TC 8.2:

|                                 |            |        |                       |  |            |    |
|---------------------------------|------------|--------|-----------------------|--|------------|----|
| Research Subcommittee Chair     |            |        |                       |  |            |    |
| 5096193                         | 030        | Voting | ALTERNATE #1 - TC 8.2 |  |            |    |
| Term in Position:               | 07/01/2014 | to     | 8113954               | 112                                    | Non-voting |    |
| Term on Committee:              | 01/26/2012 | to     | 06/30/2014            | Term in Position:                      | 01/26/2013 | to |
| <b>Mr Phillip A Johnson, PE</b> |            |        |                       | Term on Committee:                     |            | to |
| Daikin Applied                  |            |        |                       | <b>Dr Konstantinos Kontomaris, PhD</b> |            |    |

Other TC representation: TC1.1, TC2.5, TC3.1, TC3.2, TC3.4, TC8.4, TC8.5, TC8.11, TC10.7, and AHRI.

Respectfully Submitted,

Phillip Johnson,  
TC 8.2 Representative to MTG Alternative Lower GWP Refrigerants

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For Reference:

## MTG: Alternative Lower GWP Refrigerants

### Scope

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

### Objective/Impact

This MTG will create a synergy between TCs working on advancing the HVAC&R state-of-the-art. The Members will coordinate the efforts undertaken by TC1.3, 8.2, 8.4, 8.5, 8.11, 10.1, and 10.7 to investigate the performance of alternative refrigerants and refrigerant blends proposed by TC3.1. The MTG will also work closely with TC3.2 and TC3.4 to ensure the compatibility of the new refrigerants with current and future systems. Furthermore, the MTG will coordinate the results obtained from research performed in different TCs with TC1.5, 2.5 and 4.1 to establish a standardized LCCP evaluation in order to ensure that the lower GWP refrigerants do not contribute more emissions indirectly. Results from the work coordinated by this MTG will be published in ASHRAE handbook chapters sponsored by different committees. The diversity of the MTG participating TC membership will result in stronger impact on the HVAC&R community and ensure faster and sustainable transition to environmentally friendly refrigerants.