



1791 Tullie Circle, N.E./Atlanta, GA 30329
404-636-8400

TC/TG/MTG/TRG MINUTES COVER SHEET

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

TC/TG/MTG/TRG No. TC 7.7 DATE June 26, 2017

TC/TG/MTG/TRG TITLE TESTING AND BALANCING

DATE OF MEETING June 26, 2017 LOCATION Long Beach Convention Center Room 201A

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Justin Garner	2015	David Bornside	2013	Tom Schlachter
Donald Prather	2015	Lloyd Le	2015	Frank Spevak
James Hoctor	2013	John Hamilton	2015	Gerald Kettler
Byron Hagan	2016			Gus Faris
Richard Rose	2016			Jason Hauska
Tom Cappelin	2015			Michael Langton
				Robert Moss
				Jim Butler

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

TAC Section Head	Dr. Marija Todorovic	deresmt@eunet.rs
TAC Chair	Michael R Bilderbeck	mbilderbeck@pickeringfirm.com
ALI / PDC Liaison	James W Bochat	jim.bochat@cxconcepts.com
Chapter Tech Transfer Chair	Michael Cooper	mcooper@mccgroup.com
2019 HVAC Applications	Bryan Becker	beckerb@umkc.edu
Research Liaison	Christopher Wilkins, PE	chris.wilkins@crbusa.com
Standard Liaison	Rick Heiden	rheiden@trane.com
Manager of Standards	Stephanie Reiniche	sreinichie@ashrae.org
Staff Liaison	Mike Vaughn	MORTS@ashrae.net

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

MINUTES
TC 7.7 TESTING AND BALANCING
ANNUAL CONFERENCE
MONDAY – June 26, 2017 (2:15 – 4:15 pm)
Long Beach Convention Center – Room 201A
Long Beach, CA

1. CALL TO ORDER

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

- A. Attendance: 6 of 9 voting members present – quorum is present
- B. Chairman read the ASHRAE Code of Ethics – see attachment

2. INTRODUCTIONS

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

3. APPROVE MINUTES FROM LAST MEETING

Minutes from the Las Vegas meeting were passed out. After a brief discussion, a motion to accept the minutes as amended was made by Mr. Rose and seconded by Mr. Hagan. The motion passed 6-0-0

4. RECOGNIZE LIAISONS

None Present

5. DISCUSS ISSUES FROM TC BREAKFAST

Chairman Garner briefly covered the information provided at the TC Chairman's breakfast. (See attached handout)

6. SUBCOMITTE REPORTS

A. Handbook - Mark Hegberg

Not Present – No Report

B. Program - Tom Schlachter

- See attached Program Sub-Committee Report Handout

C. Membership – Donald Prather

Chairman Garner reported:

Current voting members are Garner, Prather, Cappelin, Bornside, Hamilton, Hoctor, Le, Hagan and Rose.

Mr. Hoctor, Mr. Bornside and Chairman Garner will be rolling off as a voting member's. Mr. Hegbeg, Mr. Kellerher and Mr. Schlachter have been submitted as voting members.

The following committee positions have been submitted; Chair: Mr. Prather, Vice-chair: Mr. Schlachter and Secretary: Mr. Hagan.

Mr. Hagan indicated that his current ASHRAE commitments he would like to decline the secretary position.

Mr. Prather will be seeking another member to fill the position.

D. Research - Frank Spevak

- See attached Research Sub-Committee Report Handout

Mr. Hagan reported the following information on RP-1741:

E. Journal - Justin Garner

Committee is seeking a volunteer to serve as TC 7.7 liaison.

F. Standards

STD 111 - Gaylon Richardson

Committee meeting canceled, Mr. Richardson attending to ill wife.

GPC 11 - Tom Schlachter

- Committee has held monthly teleconferences
- Vote to submit for public review passed
- Three comments turned in by two members after the vote
- Meeting was held Saturday @ 9:00 in Long Beach.
- We discussed the comments
- Two comments were determined to be minor and non-substantive
- One comment was determined to be non-applicable changes submitted
- Changes will be made and the guideline will then be submitted for public review

G. Education – Justin Garner

Committee is seeking a volunteer to fill this position.

H. Web Master – Aldin Andrade

Current sub-chair Mr. Andrade could not be in attendance

Chairman Garner reported:

- The web-site was previously up to date.
- Appears ASHRAE may have lost information

7. LIAISON REPORTS FROM OTHER TC'S OR ORGANIZATIONS

TC 1.2 Instruments & Measurements - Frank Spevak

- No new information to report.

TC 1.4 Control Theory & Application - David Bornside

- Liaison not present; no other report

TC 5.2 Duct Design – Gus Farris

- Progressing with design guide
- Frustrated with 90.1
- Working to drop maximum flex duct length
- Working on putting a dollar amount to casing and damper leakage

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

- See above noted on RP-1741
- VAV design guide is being voted upon to be turned in for review
- TC has grown and are working to organize subcommittees

TC 5.6 Control of Fire & Smoke - Gerald Kettler

- Meets Monday's after this meeting
- Guideline 1.5 Commissioning of Smoke Systems will be going out for public review

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

- Meets Tuesday @ 1:00pm
- Presently working on a chiller guide

TC 7.9 Building Commissioning - Gerald Kettler

- Struggling with documenting and reporting, looking for a better interface
- A super committee has been formed to co-ordinate ALL of Standard 2.02 Cx Guidelines (SPC 2.20?)

TC 9.10 Laboratory Systems - Lloyd Lee

- Liaison not present
- Mr. Schlachter previously reported TC7.7 and 7.9 cosponsored a program in Long Beach regarding Lab Commissioning

AABC – Gaylon Richards

- Liaison not present
- Mr. Garner reported the updated training manual will be released in 2-3 weeks

NEBB – Richard Rose

- Currently reworking instrumentation requirements

SMACNA – Eli Howard;

- Not present, no other report

ACCA – Don Prather

- Currently working on a design guide for technician's training

ICB / TABB – John Hamilton

- Not present, no other report

ASHRAE Code Interaction Sub-Committee (CIS) – John Hamilton

- Not present, no other report

8. OLD BUISNESS

Technical FAQ #300

- There was discussion that his question has been previously answered.
- Mr. Prather made a motion indicating the answer to this question was acceptable and to remove this item from the minutes
- Mr. Rose seconded the motion
- The committee voted 6-0-0 to approve the motion

9. NEW BUISNESS

- Mr. Farris reports
 - AHRI has started a college scholarship program
 - City of Seattle has outlawed the use of VAV boxes in their city code and is supporting constant volume FCU with dedicated OA.
- Mr. Prather reports Ferris State University is offering 2 & 4 year HVAC degree

10. ADJOURN

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

NEXT MEETING:

Long Beach, CA

Monday June 26, 2017 2:15 – 4:15 pm

AGENDA

SECTION TC/TG/TRG CHAIR'S BREAKFAST MEETING

2017 Annual Meeting

Long Beach, CA

Sunday, June 25th

6:30 A.M. – 8:00 A.M. PDT

Renaissance Hotel – ALL Section meetings located on either 1st, 2nd, or 3rd floor as noted below.

Section 1, Bixby 1 Room – 2nd Floor **Section 2**, Bixby 2 Room – 2nd Floor

Section 3, Dawson Room – 3rd Floor **Section 4**, Broadlind 1 Room – 2nd Floor

Section 5, Pike 3 Room – 1st Floor **Section 6**, Bixby 3 Room – 2nd Floor

Section 7, Broadlind 2 Room - 2nd Floor **Section 8**, Pike 2 Room – 1st Floor

Section 9, Pike 1 Room – 1st Floor **Section 10**, Nieto Room - 2nd Floor

MTG Section, Tichenor Room – 2nd Floor

Note: The agenda and times estimated are for guidance only and should be modified to be sure the most important information is discussed and that there is adequate time to discuss things important to the committee chairs. Note that the time estimates shown allow for other important business to be conducted within the time frame allotted.

a.1.Introduction of TC/TG/TRG/MTG Chairs, Vice Chairs, and guests (5 minutes).

a.2.Review and approval of agenda (2 minutes). (note that you might want to solicit additions and corrections at the time the draft agenda is sent to the TC Chairs – it is almost impossible to do anything in only 2 minutes)

a.3.Summarize discussion from last meeting and status of actions assigned, if any (5 minutes).

a.4.Liaisons from other committees should each be given a chance to speak and distribute information pertinent to the section from their committee. An effort should be made to accommodate their schedules without major disruption of the Section meeting (15 Minutes). a.4.1. Research Administration

a.4.2. Conference and Exposition Committee (CEC)

a.4.3. Handbook

a.4.4. Other Standing Committees

a.5.Discuss the MBOs set for the year and how the section can work together to address them (10 minutes).

a.6.Review summary report for the Section prepared from the TC/TG activity database and TAC (15 minutes). a.6.1. Section activities and trends will be discussed relating to membership, research, programs, publications and new communication tools and services.

a.6.2. Do TCs prefer to go back to a paper activity form instead of MS-Excel form used now?

a.7.Identify shared opportunities and challenges for section (10 minutes).

a.8.Announcements and Reminders for TC/TG/TRG & MTG Chairs (Handout)

a.9. Adjourn.

**Announcements and Reminders for TC/TG/TRG & MTG Chairs
LONG BEACH 2017**

A. NEW!

1. Discuss and confirm that TGs, TRGs, and MTGs in section will continue in 17-18 Society Year or disband

TBD

2. 17-18 Rosters Access & Distribution - Remember, the current 2016-2017 roster for your TC, TG or MTG is in effect until after the June meeting this year – through Friday, June 30th.

TC, TG and MTG chairs will soon receive a PDF & MS-Excel file of their new 2017-2018 roster from their Section Head or staff for distribution to the committee. In addition, each member can view all of the rosters of their committees on the ASHRAE Website once the new Society year goes into effect. 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 once the new Society year begins.

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.

3. Let's Celebrate ASHRAE's Technical Excellence Historically!

ASHRAE is highly regarded for its technological advances. Consider that these advances evolved from the efforts of our predecessors and you, and the current members of ASHRAE's Technical Committees in advancing HVAC&R technology are building on a deep foundation. So, what is the historical foundation of your Technical Committee specialty? ASHRAE will be celebrating its 125th anniversary in a couple years. The Historical Committee has a project to publish articles in the ASHRAE Journal and organize paper presentations celebrating our technical heritage for the anniversary. We plan to emphasize technical advances after 1920. Can you help with an article or a

paper or can your TC organize and sponsor a program session for the 2019-2020 meetings?

Here is a list of topics that TC members have already suggested.

- Development of open communication protocols such as BACNET.
- Modern improvements in psychrometrics (Goff & Gratch).
- History and effect of the Environmental movement on our technology. How technology and equipment has improved the indoor environment.
- The refrigerant revolution
- Solving the problems of “sick buildings.”
- The re-discovery of past technology and its application today (such as district energy, hydrocarbon refrigerants, off peak energy storage, “total energy” systems, etc.)
- History of the application of electronics to HVAC&R technology.
- ASHRAE’s long history in applying innovative technology.
- History and importance of frozen food technology.

All of these topics and others you may think of need to be written up and/or presented by someone.

How about YOU?

The 125th anniversary will be celebrated at the 2020 winter and Annual meetings. The Historical Committee has been charged with the responsibility of organizing Society and industry history projects for the 125th. If you would like to submit an article or a paper or organize a program session, contact Emily Sigman, Historical Committee Staff Liaison at esigman@ashrae.org.

There is a deadline – please submit abstracts or outlines before **September 30, 2017**.

4. Oversight of TC websites with regard to *Technical Bulletins* (White Papers) and alignment with Society positions, policy, or opinions

TCs are allowed to develop Technical Bulletins - A Technical Bulletin does not result from a technical meeting and is a brief 1-2 page statement on a special interest HVAC&R topic that has been developed by either a technical or grassroots committee of ASHRAE. After the TC approves the Technical Bulletin, TAC is responsible for coordinating a peer review by a minimum of three persons with expertise in the field of the bulletin before it can be posted. In addition, ASHRAE’s policy for websites states the following: **“4 (3) f. Statements and presentations may not appear on web sites that state, purport, or imply that they present ASHRAE positions, policy, or opinions.”**

5. Additional TC E-mail Position Aliases Now Available

New position e-mail alias addresses have now been created 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 16-17 E-mail Alias list with these new position aliases is posted on the ASHRAE website

6. New Restructured TC MOP (Manual of Procedures) issued

TAC has restructured the TC MOP so that it is easier to navigate and find information. The new TC MOP can be found on the ASHRAE website www.ashrae.org/TCs under the heading *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs*.

7. Distribution of TC minutes changed in TC MOP

The TC MOP and *TC/TG/MTG/TRG Minutes Cover Sheet* form have both been updated and you are no longer required to send the TAC chair a copy of your minutes after each meeting. The new minutes cover sheet can be found on the ASHRAE website www.ashrae.org/TCs under the headings *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs – Routine Forms for TC/TG/MTGs/TRGs*.

8. How to Import Your TC Roster Information into MS-Outlook

Detailed instructions on how to import your TC roster information into MS-Outlook has been created and an e-mail announcement will be issued to all TC chairs, vice chairs, and secretaries once these instructions and the restructured TC MOP are posted to the TC page of the website (www.ashrae.org/TCs)

9. Updated TAC Presentation Template Available for TC members to use with local Chapter

TAC recently updated the standard presentation and presentation notes that TC members can use, without a lot of effort, to explain what TCs do for the Society and how that work benefits members in your local ASHRAE Chapter. You should also know that use of this presentation at a chapter meeting in SY 17-18 will earn a chapter 50 (100 points maximum) PAOE points. Additional PAOE points are also possible in SY 17-18 for a presentation(s) on the work of one specific TC.

The new presentation and presentation notes files are posted now at the following link www.ashrae.org/tcs under the heading *General TC Information* at the top of the page in case you prefer to direct others to these files posted online. The presentation material is now also available in both English and Spanish.

10. Basecamp Information from ECC

More and more TCs and standing committees are making use of ASHRAE's subscription to Basecamp3 to better organize, store, and distribute online committee files that are needed for their meetings through a dedicated committee Basecamp site. If you would like to learn more about Basecamp and how to request a site for your particular committee, please go to the Electronic Communications Committee (ECC) web page:

www.ashrae.org/TCs
under the heading *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs*. The new 17-18 E-mail Alias list will be posted in the same location shortly after the Long Beach meeting.

B. AT THIS MEETING

1. On-Site Training Options

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

Sunday June 25th, 9:45-10:45 AM in Room #101A, 1st Floor, in the Long Beach Convention Center. The training will start with a brief presentation on how to run Effective Meetings and then highlight some of the online resources that are available through the TAC training portal for additional training and information on a variety of topics. The training session will also have a Q&A session so that you can also get answers to your specific questions.

ii. RAC's Research Subcommittee Chair's Breakfast

Monday, June 26th, 6:30 AM – 9:30 AM in Regency room, 4th Floor, Hyatt Regency Hotel. 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 changes to the *Research Manual*.

iii. TC Program Subcommittee Chair Training in Long Beach

Tuesday, 6/27, 11:15 AM – Noon, Room #202C, 2nd Level, in the Long Beach Convention Center. *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. Location of Section Head Mailboxes & Free Wi-Fi Access at this Society meeting

Mailboxes are located just outside ASHRAE Headquarters Office (Seaview Ballroom B & C – Lower Level (1st floor) – Hyatt Regency 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.

Wireless internet will be available in all meeting rooms at the Hyatt, Renaissance, and Long Beach Convention Center. ASHRAE will be working with the internet provider to

<https://www.ashrae.org/society-groups/committees/electronic-communications-committee>

) and scroll down to the section titled *Guidance for Basecamp 3*

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.

Hyatt & Renaissance Wi-Fi Access: **PSAV_High_Speed** is the network, **ashrae2017** is password (case sensitive).

Long Beach Convention Center Wi-Fi Access: **ashrae2017** is the network, **longbeach** is password (case sensitive).

3. RPM (Remote Participation Meetings) being held in Long Beach

The 12th RPM (Remote Participation Meeting) Capable Society Meeting, which allows some TC members to participate in the TC meeting from a remote location electronically, will occur in Long Beach and the following fifteen TCs have agreed to participate in this effort: TC 1.6, TC 1.10, TC 1.12, TC 2.1, TG2(HVAC), TC 5.8, TC 5.11, TC 6.9, TC 7.3, TC 7.9, TC 8.3, TC 9.2, TC 9.4, TC 10.3, and TC 10.6 – This represents a 25% increase over the number of TC's hosting RPM meetings in Las Vegas. A total of 43 RPM meetings will be hosted in Long Beach when you include project committee and other committee meetings. For comparison, a total of 38 RPM meetings were hosted in St. Louis last year at this time.

The chairs of those TCs participating should provide to their Section Head feedback on their RPM meeting experience before TAC meets on Wednesday morning, 6/28.

4. Name Badges

As offered in the past, members of TCs who are not registered for the Conference and plan to only attend TC meetings may receive a free, plain white name badge. The purpose of these badges is for TC members not registered for the Conference to be able to identify one another in meetings.

To receive your badge, please go to the ASHRAE Registration desk located in room 104 at the Long Beach Convention Center and look for the sign for "TC Badges." Please identify yourself as someone only attending committee meetings, not registered for the Conference, who would like a white name badge. An ASHRAE staff person will create a badge for you that includes your name, company name and city, state and country (if outside the U.S.). The badge will not have a QR code and will not allow you into the Technical Program.

However, if you'd like to register for the entire Conference you can do so in advance or onsite. We realize your time is limited, one-day registrations (\$270 for Members) are available as well as one-session registrations (\$70). If you wish to register for one day of the Technical Program you or one session, you can do so at the ASHRAE Registration desk. The One-Day option gives you access to the Virtual Conference which is viewable on-demand for 18 months. Questions? Contact meetings@ashrae.org.

5. Retiring TC/TG/TRG/MTG 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).

C. UPCOMING DEADLINES

1. TC Activity Forms for the Long Beach Meeting are due to Your Section Head before Wednesday, 6/28/17

TC/TG/TRG Activity Feedback Form (Excel) 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.

2. Thank You Letters to Employers

ASHRAE President – Tim Wentz– 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 2016-2017. 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.

3. Seminar and Forum proposals for Chicago are due by Tuesday, August 1st, 2017.

Please visit the following site to submit your proposal:

<https://ashraem.confex.com/ashraem/w18/cfp.cgi>

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

4. 2017-2018 Hightower Award & Service to ASHRAE Research Award Nominations by Friday, September 1st

Nominations for the 2017-2018 *George B. Hightower Technical Achievement Award* are due to you Section Head by September 1, 2017. 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>

Nominations for the 2017-2018 *Service to ASHRAE Research Award* for TC volunteer efforts in research are due to RAC research liaison by September 1, 2017. 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>

5. 2018 RPM (Remote Participation Meetings) Request for Chicago Meeting

ASHRAE has streamlined the process for requesting RPM meetings moving forward, which will allow us to confirm meeting information earlier in advance of the actual meeting dates.

The updated procedures are as follows:

- ALL committees that want to be considered for an RPM capable meeting in Chicago next January must turn in an *ASHRAE Meeting Room Request Form* for Chicago to the ASHRAE Meetings section.
- The request should include the reasons why you are requesting RPM meeting capability.
- RPM meeting requests for the upcoming Chicago Winter meeting should be submitted by **Monday, October 2nd or sooner**.
- Confirmation emails (verifying the requests) will be sent out in November 2017
- Requests received after the above date may not be accommodated due to high and growing demand for this service.

D. REMINDERS

1. 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>

2. Request for each TC to briefly review ASHRAE Code of Ethics at start of meeting

See the following link for the latest version of the ASHRAE Code of Ethics:
<https://www.ashrae.org/about-ashrae/>

3. Make a Special Effort to welcome new Members, and Visitors to TC meeting

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.

4. 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 MORTS@ashrae.net

5. Is Your Committee Website up to Date?

If not, please ask your webmaster to at least post the latest minutes and the Long Beach 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. The new TC website template has greatly simplified the duties of the TC webmaster and this form of communication is critical to the efficient operation of your committee, and for attracting new members.

The recent conversion to a new TC website platform highlighted a couple areas where a refresher of the ASHRAE rules on website maintenance is warranted. First be aware that ASHRAE Products (i.e., handbook chapters, journal articles, final reports from research projects, etc.) cannot be published on your TC's website. It is very appropriate to post the title and scope of the product and then link the reader to the ASHRAE bookstore or other location on the ASHRAE site where the product may be purchased. Any possible exceptions to this rule must be sent through Steve Comstock for review and approval (scomstock@ashrae.org<https://www.ashrae.org/standards-research--technology/technical-committees/tc-training-and-presentations>). The second issue involves timely posting of the draft minutes. Draft minutes (and final, approved minutes from the prior meeting) should be posted to your website (or otherwise distributed to the members) within 60 days after the meeting. Please ensure that your secretary and webmaster are aware of this deadline. To assist your secretary in understanding the procedures for taking and reporting minutes, a video has been developed and posted on the Technical Committees' Training page (). On the same page, a video has also been posted for use by webmasters to learn about the procedures and schedule to maintain the new websites.

6. TC 2017-2018 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 •
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.

E. RECENT ANNOUNCEMENT

1. RAC Prioritizing Research Topics Related to the Residential Sector

Continuing in 2017-2018, 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.

2. CEC's Standing Request for Future Society Meeting Program Track Suggestions

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 Atlanta 2019 winter 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). You can also add your track suggestion in the "Comment" section of the TC Activity form for the Long Beach meeting.

3. CEC Always Seeks 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.

4. The Professional Development Committee (PDC) is seeking ideas for new ASHRAE Learning Institute (ALI) courses.

The Professional Development Committee (PDC) is actively seeking ideas for new ASHRAE Learning Institute (ALI) courses. We need practical courses of broad interest to be presented as face-to-face seminars or short courses, instructor-led online courses and self-paced courses. Examples include courses with a focus on new technologies that need to be shared, fundamentals for engineers new to the discipline, standard applications that need explanation, and courses based on new design guides. Does your TC have a potential course idea?

Contact Karen Murray (ASHRAE staff) kmurray@ashre.org PDCchair@ashrae.net or James Bochat (2016-17 PDC chair) with your course ideas.

F. CURRENT & UPCOMING ASHRAE CONFERENCE PROGRAMS

1. Long Beach Annual Conference - June 24 – June 28, 2017

Conference Website: <http://ashraem.confex.com/ashraem/s17/cfp.cgi>

Conference Program Chair: Ann Peratt Email: ann.peratt@gmail.com

Program Focus at Long Beach Annual Conference

i. Track 1: Fundamentals and Applications

ii. Track 2: HVAC&R Systems and Equipment

iii. Track 3: Refrigeration

iv. Track 4: Building Life Safety Systems

v. Track 5: Controls: Smart Building Systems and the Security Concerns as Technology Emerges

vi. Track 6: Commissioning: Optimizing New and Existing Buildings and their Operation

vii. Track 7: Net Zero Energy Buildings: The International Race to 2030

viii. Track 8: Residential Buildings: Standards and Guidelines and Codes

ix. Track 9: Research Summit

2. Chicago Winter Conference – Jan. 20 – Jan. 24, 2018

Seminar and Forum proposals for Chicago are due by **Tuesday, August 1, 2017**.

Conference Website: <https://ashraem.confex.com/ashraem/w18/cfp.cgi>

Conference Program Chair: Michael Collarin Email: Michael.Collarin@parsons.com

Program Focus at Chicago Winter Conference

i. Track 1: Systems and Equipment

- ii. Track 2: Fundamentals and Applications
- iii. Track 3: Standards, Guidelines and Codes
- iv. Track 4: Earth, Wind & Fire NEW!
- v. Track 5: Transportation IAQ and Air Conditioning NEW!
- vi. Track 6: Tall Buildings
- vii. Track 7: Modeling Throughout the Building Life Cycle NEW!
- viii. Track 8: Heat Exchange Equipment
- ix. Track 9: Refrigerant Mini Track @ Expo*
- x. Track 10: Residential Mini Track @ Expo*

3. Houston Annual Conference - June 23 – June 27, 2018

Seminar and Forum proposals for Houston are due by **Friday, February 9th, 2018.**

Conference Website: [https://www.ashrae.org/membership--](https://www.ashrae.org/membership--conferences/conferences/2018-ashrae-annual-conference/call-for-papers)

[conferences/conferences/2018-ashrae-annual-conference/call-for-papers](https://www.ashrae.org/membership--conferences/conferences/2018-ashrae-annual-conference/call-for-papers)

Conference Program Chair: Cindy Moreno Email: cindym@tmmechanical.com

Program Focus at Houston Annual Conference

- i. Track 1: HVAC&R Systems and Equipment
- ii. Track 2: Fundamentals & Applications
- iii. Track 3: District Energy and Cogeneration Plants NEW!
- iv. Track 4: Safeguarding our HVAC&R System NEW!
- v. Track 5: Residential: Modern Buildings in Hot & Humid Climates
- vi. Track 6: Professional Skills
- vii. Track 7: Research Summit
- viii. Track 8: HVAC&R Control Freaks NEW!
- ix. Track 9: HVAC&R Analytics NEW!

G. OTHER UPCOMING WORKSHOPS, CONFERENCES AND EVENTS

1. 2017

- i. **Building Simulation 2017** – Aug. 7 – Aug. 9, 2017 – San Francisco, CA USA –
Contact: <http://www.buildingsimulation2017.org/>

- ii. **ISHPC2017** – Aug. 7 – Aug. 10, 2017 – Tokyo, JAPAN – Contact:
<http://biz.knt.co.jp/tour/2017/ISHPC2017/congress.html>

- iii. **ASHRAE Building Performance Analysis Conference** – September 27-29, 2017 –
Atlanta GA, USA – Contact: <https://ashraem.confex.com/ashraem/bpa17/cfp.cgi>

- iv. **2nd ASHRAE Developing Economies Conference** – Nov. 10-11, 2017, Delhi

TC 7.7 – Program Report
June 25, 2017 – Long Beach
Tom Schlachter

2. We co-sponsored one program in Long beach with TC 7.9 Building Commissioning. Seminar 2, Commissioning of Complex Labs: Stories from the Field, was held Sunday at 9:45. Justin Garner presented a project highlighting “Safety vs Energy” design choices and problems encountered.
3. Seminar for “Venturi vs Blade” dampers was submitted and rejected for a 2nd time.
4. Program sub-committee meeting was held Sunday evening
 - A. We are looking for volunteer presenters for Chicago, Winter 2018 and Houston, Summer 2018
 - B. Potential future program for Chicago; Track 2: Fundamentals and Applications
 - Log – T vs Equal Area Traverse methods
 - TAB Cx procedures and items to document for
 - VAV terminals
 - VAV Htg/Clg systems
 - VAV Air Handling unit w/ emphasis on Economizer
 - C. Potential future program for Houston; Track 8 – HVAC&R Control Freaks
 - Best Practices
 - Hard wired vs soft wired safeties
 - VFD bypass; when to use and various options
 - Passing data between panels and across the network
 - Specify both how to enable and disable each SOO

Chicago – Winter 2018 Submission Dates and Track Information

This is the overall publication schedule for the ASHRAE 2018 Winter Conference, Chicago. For specific details and questions regarding these dates, please contact the appropriate Track Chair.

Wednesday, March 01, 2017 Conference Paper Abstracts, Technical Papers and Paper Session Requests Due

Monday, March 27, 2017 Conference Paper Abstract Accept/Reject Notifications

Friday, June 02, 2017 Website Opens for Seminar, Forum, Debate, Panel and Workshop Proposals

Friday, July 07, 2017 Final Conference Papers Submitted for Review (Includes Bio, Learning Objectives and Methods of Assessment); Request for Conference Paper Sessions Due

Monday, July 24, 2017 Conference Paper accept/reject notifications

Tuesday, August 01, 2017 Seminar, Forum, Workshop and Paper Proposals Due

Monday, August 07, 2017 Revised Conference Papers/Final Technical Papers Due

Monday, August 21, 2017 Conference and Technical Paper Final Accept/Reject Notifications

Wednesday, September 06, 2017 Seminar, Forum, Workshop Accept/Reject Notifications

Friday, December 01, 2017 Upload of PPTs Begin

Monday, January 08, 2018 All PPTs Due Online

Wednesday, January 17, 2018 Final Day for Commercialism Revision Upload prior to on-site

Saturday, January 20, 2018 Speaker's Lounge Opens

Track 1: Systems and Equipment Track Chair: [Carrie Anne Crawford](#) Email: carriecrawford@eeace.com

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

Track 2: Fundamentals and Applications Track Chair: [Kevin Marple](#) Email: kmarple@benzco.com

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

Track 3: Standards, Guidelines and Codes Track Chair: [Corey Metzger](#) corey.metzger@resourcece.com

ASHRAE is known for its standards and design guidelines – and they are constantly evolving with the intent on improving the built environment and its systems. Designers, Contractors, Architects and Owners must be able to keep up with the continuing changes in the current cycle but to also be prepared for the future changes. In addition, there is a large interaction of ASHRAE with the code authorities and government to incorporate these standards and guidelines. The series of sessions in this track highlight the changes to the standards and guidelines, their projected path and optimum design techniques to meet or exceed the standards.

Track 4: Earth, Wind & Fire Track Chair: [Ashish Rakheja](#) Email: ashish.rakheja@aeonconsultants.in

Designing for natural elements and other possible disasters often requires specific elements of building design and construction. From materials to stabilizing elements and simulations to specifications, these options must be incorporated. This track will deliver on modern strategies to address all of these conditions. Be prepared to be blown away by industry practices to prevent disastrous results.

Chicago – Winter 2018

Submission Dates and Track Information

Track 5: Transportation IAQ and AC Track Chair: Dimitris Charalambopoulos dimitris@ashrae.gr

Often considered boutique engineering, both enclosed vehicular facilities and transportation design, construction, operation, and maintenance needs to be elevated to equal status with other HVAC applications. These systems require the same design approach as other system designed but usually have special technical requirements that mandate close velocity capture/control, air quality control, etc. that can be overlooked but the more traditional building system design engineer. This track will seek case studies and trouble-shooting projects highlighting the opportunities and pitfalls associated with these unique applications.

Track 6: Tall Buildings Track Chair: Leticia Neves Email: leneves@gmail.com

Chicago is home to one of the tallest buildings in the world. One that stood the tallest in the world for nearly 25 years. However, today, more and more tall buildings are being designed and constructed. This track will draw upon “larger than life” case studies, as well as large building HVAC systems that can be classified as “innovative and/or 21st century” that highlight the opportunities presented and achieved by the designer, builder, and operator for facility HVAC systems throughout the world

Track 7: Modeling Throughout the Building Life Cycle Track Chair: Joseph Firrantello : j.firrantello@gmail.com

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: Heat Exchange Equipment Track Chair: Vikrant Aute Email: vikrant@umd.edu

Given the critical importance of energy efficiencies and reliability of HVAC systems, new heat and mass transfer HVAC & R equipment and advanced systems have been developed. Bringing non-traditional technologies to the actual field is not trivial task and how to design the equipment and characterize the performance of new HVAC &R technologies under real field type conditions are still open questions. The papers and programs in this track will inform designers, engineers, building energy simulation modelers, and energy consultants and practitioners in the use of non-traditional heat exchange equipment and advanced HVAC &R systems under real field type conditions. The track will focus on fundamentals and applied aspects, on current challenges and recent advancements for managing frost growth, water condensate, fouling, corrosion, and mitigation of mold growth and bacteria that are often encountered in heat exchange equipment when working under real field type conditions.

Track 9: Refrigerant Mini Track @ Expo* Track Chair: Gary C. Debes Email: gcdebes@verizon.net *Section will determine topics, speakers, session types, etc.

Track 10: Residential Mini Track @ Expo* Track Chair: Gary C. Debes Email: gcdebes@verizon.net

*Topics, speakers, session types, etc. will be determined by the cognizant committee.

Conference Program Chair: Michael Collarin Email: Michael.Collarin@parsons.com

Staff Support For information on the technical program, special events, special sessions and general conference inquiries Tiffany D. Cox **Assistant Manager of Conference Programs** Email: tc Cox@ashrae.org

Technical Support For technical problems or for help in submitting an abstract online, [email Tech Support](#)

Houston – Summer 2018

Submission Dates and Track Information

Monday, August 28, 2017: Conference Paper Abstracts, Technical Papers and Paper Session Requests Due

Thursday, September 28, 2017: Conference Paper Abstract Accept/Reject Notifications

Friday, December 8, 2017: Final Conference Papers Due - Submitted for Review (Includes Bio, Learning Objectives and Methods of Assessment); Request for Conference Paper Sessions Due

Friday, January 2, 2018: Website Opens for Seminar, Workshop, Forum, Debate and Panel Proposals

Monday, January 15, 2018: Conference Paper Accept/Revise/Reject Notifications

Friday, February 9, 2018: Program (Seminar, Forum, Workshop, Debate and Panel) Proposals Due

Friday, February 9, 2018: Revised Conference Papers/Final Technical Papers Due

Monday, February 19, 2018: Conference and Technical Paper Final Accept/Reject Notifications

Monday, March 19, 2018: Seminar, Forum, Workshop Accept/Reject Notifications

Monday, April 30, 2018: Upload of PPTs Begin

Friday, June 1, 2018: All PPTs Due Online

Wednesday, June 20, 2018: Final Day for Commercialism Revision Upload prior to on-site

Track 1: HVAC&R Systems and Equipment Track Chair: Frank Schambach Email: frankschambach@mindspring.com

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

Track 2: Fundamentals and Applications Track Chair: Dennis Alejandro Email: denzjac@yahoo.com

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

Track 3: District Energy and Cogeneration Plants Track Chair: Kimberly Pierson Email: kdpwildcat@gmail.com

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

Track 4: Safeguarding your HVAC&R System Track Chair: Rich Rose Email: richr@mticontrols.com From seismic events to power outages and human error, how secure is your HVAC&R System? Mechanical, plumbing, electrical, and control systems all work together to create our living buildings, so it is imperative that designers and operators take into account the reactivity and interaction of these systems in response to natural disasters, human interference and other catastrophic events. Topics in this track include considering your design layout and accessibility, backup systems, supports and bracing, and more.

Houston – Summer 2018

Submission Dates and Track Information

Track 5: Residential - Modern Buildings in Hot and Humid Climates Track Chair: **Dimitris Charalambopoulos**
Email: dimitris@ashrae.gr

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

Track 6: Professional Skills Track Chair: **Kevin Marple** Email: kmarple@benzco.com

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

Track 7: Research Summit Track Chair: **Melanie Derby** Email: derbym@ksu.edu

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

Track 8: HVAC&R Control Freaks Track Chair: **Gary C. Debes** Email: gcdebes@verizon.net

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

Track 9: HVAC&R Analytics Track Chair: **Vikrant Aute** Email: vikrant@umd.edu

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

For information on the technical program, special events, special sessions and general conference inquiries.

Conference Program Chair: Cindy Moreno Email: cindym@tmmechanical.com

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

Research Subcommittee Meeting June 26, 2017

Notes from Research Subcommittee Meeting, Long Beach, CA, June 26, 2017

Proposals Update

7 RTARs considered by RAC- 1 accepted, 3 accepted with comments, and 3 rejected

11 Work Statements considered – 1 accepted, 7 conditionally accepted, and 3 returned

RAC approved to fund Innovative Research Grant proposal. Not much explained about what kind of project was accepted.

Unsolicited Research Proposal (URP) Update

Hold has been removed

New procedure established

Should meet URP, RTAR and WS criteria

Needs RAC approval first and TC approval

Grant in Aid

New procedures that incentives recipients to attend Society meetings

Full time graduate student

10-25 \$10,000 grants awarded each year plus option for \$1500 honorarium

Award nominations

Seeking nominations for Service to ASHRAE Research Award and the Homer Addams Award for graduate student

Milestone Monitoring

Milestone and task monitoring will go into effect with all new projects.

PMS will be required to report on the status of milestone

Appropriate and timely actions will be taken for the delayed or non-completed milestone

Incoming RAC Chair is seeking suggestions on Technology Transfer. Ways to disseminate outcomes of ASHRAE Research Projects and how to articulate the outcome in plain English.