



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. TC9.2 DATE                     

TC/TG/MTG/TRG TITLE Industrial Air Conditioning

DATE OF MEETING January 31, 2017 LOCATION Las Vegas

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Eileen Jensen	2015	Norm Maxwell	2015	Bill Lampkin
Paula Hernandez, MNQ	2015	Vladimer Fedqiw, MNQ		Kyle Vach
Deep Ghosh	2015			Mike Baucom
Kevin Marple	2016			Ryan Gallagher
Mike Connor	2016			Harvey Schowe
Vinod Gupta	2015			Andy Cochrane
Doug Abramson (remote)	2016			John McKernan
				David Carroll
				Mark Miller
				Erich Binder
				Krishnan Gowri, Section 9 Head
				John Scott MacMurray (remote)
				Michael Heinrich (remote)
				Aika Davis (remote)
				Joel Foster – YEA (remote)
				Bill Kumpf (remote)
				Gary Shamshoian
				Carl Orio
				Tim Roos

<b>DISTRIBUTION: <i>All Members of TC/TG/MTG/TRG plus the following:</i></b>	
TAC Section Head: Krishnan Gowri	SH9@ashrae.net
ALI/PDC: James Bochat CTTC Liaison: Michael Heinrich Research Liaison: Jeff Gatlin Standard Liaison: Niels Bidstrup	<a href="mailto:jim.bochat@cxconcepts.com">jim.bochat@cxconcepts.com</a> <a href="mailto:michael.heinrich@westplainsengineering.com">michael.heinrich@westplainsengineering.com</a> <a href="mailto:jeff.gatlin.pe@gmail.com">jeff.gatlin.pe@gmail.com</a> <a href="mailto:nbidstrup@grundfos.com">nbidstrup@grundfos.com</a>
Mike Vaughn, Manager Of Research & Technical Services	MORTS@ashrae.net

## **DRAFT MINUTES**

### **ASHRAE TC 9.2 - Industrial Air Conditioning Technical Committee**

#### **Meeting Minutes – Las Vegas, Nevada**

**January 31, 2017**

#### **Note:**

**These draft minutes have not been approved. They are not the official approved record until approved by the committee.**

#### **Meeting Location:**

**Las Vegas, Nevada, at the Caesars Palace, Room – Forum 5.**

#### **Call to Order, Introductions & Acceptance of Previous Meeting Minutes:**

1. Meeting was called to order by Chair Eileen Jensen at 1:08 PM
2. The Chair gave opening remarks and called for Introductions
3. The Sign-In sheet was distributed and returned to the Secretary.
4. Electronic Format Attendees: Joel Foster who is a YEA Member, Bill Kumpf, Michael Heinrich, Aika Davis, Scott MacMurray, and Doug Abramson.

#### **Quorum Status - Determination of Meeting Quorum.**

1. Quorum was established with 6 voting members present out of 7 at 1:10, later Mr. Doug Abramson joined the meeting through Electronic Format but Vin Gupta left early.

#### **Approval of Minutes from St. Louis.**

1. Chair called for acceptance of minutes from St. Louis.
2. Kevin Marple moved to accept the minutes; Vin Gupta seconded.
3. Motion approved unanimously, 6-0-0 CV.

#### **Chair Report – Mrs. Jensen:**

1. Hightower Award Recipient – Paul Lindahl from TC 3.6 & TC 8.6, and Joseph Huber (TC1.3) received the Service to ASHRAE Research Award.
2. ASHRAE members have free online access to ASHRAE's Science and Technology for the Built Environment through their existing ASHRAE.org account. Likewise, the new ASHRAE Technology Portal is available for free member access to ASHRAE Journal articles and ASHRAE Research Reports.

3. All other information is in the minutes of the TC Chair Breakfast and is included as Attachment A.

#### **Membership and Voting Member Status – Mrs. Jensen.**

1. Mrs. Jensen stated that there are no Members rolling off at the end of this year.
2. She confirmed that Mr. Kevin Marple is continuing as Vice Chair.
3. She mentioned that Paula Hernandez is going to be replaced by Erich Binder as Secretary. Mr. Deep Ghosh will remain as Standards Subcommittee Chair, Mike Connor as Handbook Subcommittee Chair, Vin Gupta as Programs Chair, Mike Baucom as Webmaster, and Scott MacMurray as the Nuclear Subcommittee Chair.
4. Mrs. Jensen noted that there are three new Provisional Corresponding Members who have joined since the St. Louis meeting: Ruben Sidranski, Don Largent, and Andy Cochrane. Welcome to TC9.2!
5. At this time we have 7 Voting Members. Erich Binder and Bill Lampkin will be added as voting members, bringing the total to 9.

#### **Nuclear Subcommittee – Mr. Scott MacMurray.**

1. There were 5 Members and 5 guests in attendance. Don Largent and David Carroll attended the meeting as guests; they indicated an interest in becoming members of the subcommittee. Mrs. Jensen stated that they are Members of TC 9.2 now so if Mr. MacMurray wants to make them Members of the Nuclear Subcommittee, it is his decision.
2. Ravi Ganta will be providing a summary mark-up of the HVAC Design Guide for Department of Energy Nuclear Facilities to Mr. MacMurray, for inclusion in the Nuclear handbook chapter. He will review and distribute to the committee members for review before the 2017 Annual Meeting.
3. The Nuclear handbook chapter revision needs to be submitted to the TC9.2 Handbook subcommittee by the 2018 Winter Meeting.
4. Minutes from the St. Louis meeting were approved, 4-0-1 CNV. Draft minutes from this meeting will be forwarded as soon as they are finalized.

#### **Handbook/Program/Research Subcommittee Report – Mrs. Jensen –Mr. Gupta – Mr. Connor.**

1. The subcommittee met on Sunday.

2. Research: Mrs. Jensen noted that there will be a new Project Monitoring Subcommittee webinar available. Jeff Gatlin (Research Liaison) also requested that if there is going to be an RTAR proposed by this committee, that we let him know as soon as possible so he can assist us.
3. Mr. Connor commented that are significant modifications on some of the Handbook chapters. Additionally, a new Chapter on Semiconductor and Nanotechnology Facilities will be proposed.

**Mrs. Jensen introduced Mr. Krishnan Gowri, Section 9 Head**

1. Mr. Gowri provided additional detail on the Section 9 Minutes (Attachment A) and on what the Society is bringing on the next year.

Mr. Gowri shared that one of the initiatives being pursued by Society is to get better data on attendance at technical committees by people who are not registering for the conference. They know this happens but the only information available is anecdotal and it is unclear if this is an issue worth pursuing or not. If enough people are doing it, this could be an opportunity to provide more value to our members. He understands that people are afraid that the goal of this effort will be to charge people if they attend only the technical meetings. He said it is not the case. Rather, they are trying to see if there is a way to provide some basic support such as badges. For example, if people want to have a badge and they don't have one, they may miss job opportunities.

2. He is collecting data and feedback of attendance on this issue. If members have any comments he will take those into account.
3. Mr. Ghosh commented that he thought it is a good idea.

**Research Report – Mrs. Jensen:**

1. Reported under Handbook/Program/Research subcommittee report.

**Programs Report – Mr. Vinod Gupta:**

1. Mr. Gupta presented his report which is attached to the minutes. Attachment B.
2. He noted since January 2015 we have not been very active. We had some past programs on Industrial Facilities, a workshop in Chicago about ventilation in Hazardous Spaces, and then we become silent in Orlando and St Louis.
3. The good news is that we had a workshop presented at this meeting. Mike Connor said that they didn't have as many attendees as they had hoped. Deep Ghosh said that they expected many more people. It was speculated that people

had problems to find the meeting location. Also, Sunday morning is not a good time to have a workshop. Many committee meetings are on at the same time, so it makes it difficult for people to attend a workshop.

4. There were a large number of seminars presented on industrial design at this meeting, and they were generally well attended. Mr. Connor thinks that there are a lot of people that are really interested in this theme.
5. Potential future topics were:
  - a. “Will Green Technologies Affect Industrial Applications - Zero Impact, Zero Energy”. They are looking at the carbon footprint, becoming green and sustainable. He asked if there is somebody interested in writing a paper about this; no one offered. Ravi Ganta said he could do the coordination to make something out of it. Deep Ghosh said he would also look for something about this.
  - b. Second item is “What Industrial Technical Committees do in ASHRAE”. Kevin Marple thought the industrial membership of ASHRAE is very small so he said we should keep it small. He will talk about this with Mike Connor.
  - c. The third proposed topic was “Industrial Energy Generation and Savings for Sustainable Operation”. This could include discussion on green technology impact, as well as biomass. Mike Connor, Deep Ghosh, Vin Gupta, Erich Binder, and Joel Foster all have indicated an interest in this topic. The goal would be to shoot for the Chicago 2018 meeting
  - d. The fourth proposed topic was “Battery Room Ventilation”. Deep Ghosh said that he is doing something about it, maybe try for the 2018 Houston meeting.
  - e. The last proposed topic was “Design-build of Industrial Facilities/Industrial Equipment”. It was suggested that this be jointly sponsored with TC7.2 – Design Build committee.

6. Mrs. Jensen mentioned due dates:

- Long Beach: Program proposals are due on February 6<sup>th</sup>, 2017.
- Chicago: Conference paper abstracts are due March 1<sup>st</sup>; Papers are due December 9<sup>th</sup> 2017, Program submissions are due August 6<sup>th</sup> 2017.

Tracks for Chicago are: Systems and Equipment; Fundamentals and Applications; Standards, Guidelines and Codes; Earth, Wind and Fire; Transportation IAQ and Air Conditioning; Tall Buildings; Modeling Throughout the Building Life Cycle; Heat Exchange Equipment; and Refrigerant Mini Track @ Expo. See Attachment C.

#### **Handbook Report – Mr. Mike Connor:**

1. Mr. Connor handed out copies of the current list of chapters assigned to TC9.2 - See attachment D. It was noted that the Photographic Material Facilities chapter was sunsetted last time. He also pointed out that a new chapter on semiconductor and nanotechnology facilities is being proposed.

The table showed the changes that were incorporated in the last review cycle. Even though the Industrial Air Conditioning chapter had significant additions the last cycle, we may be proposing some pretty significant changes again. This could include information on 3-D printing. Mrs. Jensen asked Aika Davis if she has anything to add, to please contact Mr. Connor.

2. Mr. Connor said that Mr. Ghosh is the lead on Nuclear Facilities. It was requested that Scott MacMurray's name be added as co-lead.
3. Mr. Connor requested the TC to consider approving the semiconductor facilities as a new handbook chapter. He handed out an outline of the chapter to the committee – see Attachment E. The focus is on small facilities, not full manufacturing facilities, which are already covered by TC9.11. We want to be sure that it does not duplicate their work. He has spoken with design engineers and consultants that he knows and they acknowledge that there is a gap in the area of small research institutions that are building these facilities. He thinks that the approach to the chapter is to share how this has been done, and why it is done including the safety systems. He thinks this also could be coordinated with TC 5.8. They should also address risk analysis. The risk analysis he is proposing is used by other industries and considers occurrences and the frequency of the occurrences. Mike thinks it is very ambitious for 2018 publication. He has also spoken with TC 9.11 and they are very interested in this proposal.
4. Doug Abramson joined the meeting at 2:18. Mr. Gupta left the meeting.
5. Mrs. Jensen moved that the committee accept the draft outline on Handbook Chapter for Semiconductor and Nanotechnology Facilities as a new chapter; Mr. Ghosh seconded. There was some discussion about including information on risk. No further discussion on the motion. The motion was approved, 6-0-0 CV.
6. Mike also noted that all editing on handbook chapters must be done using the Authors Portal; he will forward the link to the chapter reviewers.

#### **Standards – Mr. Deep Ghosh:**

1. The committee review of ASHRAE Guideline 21, Ventilation and Thermal Management of Batteries for Stationery Applications has been finished and sent to IEEE for the formal balloting process. Balloting opened January 20<sup>th</sup>. Deadline to respond to the ballot is February 20<sup>th</sup>.

2. The other standard, ASHRAE Standard 128, Method for Rating Portable Air Conditioners, has been approved by the committee and it will be sent for public review soon. He did not know when it will be ready but will let us know when it is.

**Hazardous spaces – Mr. Mike Baucom.**

1. The Chemical Safety Board is still interested in the information that will be covered by this chapter. He and Mr. Binder have been working on this and they are still looking for volunteers. Mrs. Jensen noted that Harvey Schowe had previously provided feedback to Mr. Baucom so they agreed to talk further.

**CTTC Liaison – Mr. Michael Heinrich:**

1. Mr. Heinrich participated remotely. He thanked the committee for allowing him the opportunity to speak and offered to liaise any information back to the CTT Committee. No issues were raised at this time.

**Standard 62.1 Liaison Report – Open:**

1. No one on the committee was able to attend this meeting.

**Standard 90.1 Liaison Report – Open:**

1. Mrs. Jensen asked for a volunteer, just to ensure the committee's interests are fairly represented.
2. Mr. Ghosh says he may find someone and will let us know.
3. It was noted that it is a significant commitment to take. No volunteers stepped forward.

**Webmaster Report – Mr. Baucom:**

1. Mr. Baucom reported that the website was operational and up to date.
2. He is looking at setting up a webpage for all members to share questions and feedback. He is also interested in providing a forum for discussion of items of mutual interest, including articles.
3. Mr. Ghosh asked if there is a problem putting the handbook chapters on the website on a secure webpage. There was a lengthy discussion on how to use the site and how safe it is.



### **Journal / Insight Liaison – Mr. Norm Maxwell:**

1. Not present, no report

### **Old Business:**

1. Discussion on merging TC 5.8 and TC 9.2.

Mrs. Jensen made a brief introduction of this issue. The committee previously received the proposal of joining the two TCs. We have had good discussions in St. Louis and online. Mrs. Jensen appreciated the thoughtful and respectful comments everybody provided. Both TCs have had difficulties to make a quorum, especially TC5.8. She noted that joining the two TCs will make better use of the volunteer's time for the business of the committee as many people are members of both committees.

Mrs. Jensen called for a motion.

Deep Ghosh made the following motion: "DUE TO LACK OF ACTIVE PARTICIPATION AND CONTINUED STRUGGLE TO ESTABLISH QUORUM FOR CONDUCTING OFFICIAL BUSINESS AT BOTH TC 9.2, INDUSTRIAL AIR CONDITIONING COMMITTEE AND TC 5.8 INDUSTRIAL VENTILATION COMMITTEE MEETINGS, I MOVE THAT BOTH COMMITTEES BE MERGED AND RENAMED TC 9.2 INDUSTRIAL AIR CONDITIONING AND VENTILATION COMMITTEE. "

Mr. Connor seconded the motion. Mrs. Jensen called for discussion.

Bill Kumpf (remote participant) questioned the wording of the motion. Mrs. Jensen shared that TC 5.8 voted on this same motion and passed it like it is.

Mr. Ghosh said that this is just a motion for the Board to consider.

Mr. Baucom clarified that this is about the dissolution of TC 5.8 and the changing of the name of TC 9.2.

Mr. Connor moved to amend the motion; Mr. Ghosh seconded. Mrs. Jensen called for discussion on the amendment.

Vote: 1-5-0 CV, the amendment was defeated.

Mr. Ghosh moved to make the following amendment to motion at the end of the original motion: **and the scope for TC 9.2 be changed accordingly.**

Mr. Kumpf shared additional concerns on this amendment.

Vote: 6-0-0 CV. The amendment passed.

The motion now reads: “DUE TO LACK OF ACTIVE PARTICIPATION AND CONTINUED STRUGGLE TO ESTABLISH QUORUM FOR CONDUCTING OFFICIAL BUSINESS AT BOTH TC 9.2, INDUSTRIAL AIR CONDITIONING COMMITTEE AND TC 5.8 INDUSTRIAL VENTILATION COMMITTEE MEETINGS, IT IS MOVED THAT BOTH COMMITTEES BE MERGED AND RENAMED, TC 9.2 INDUSTRIAL AIR CONDITIONING AND VENTILATION COMMITTEE AND THE SCOPE FOR TC9.2 BE CHANGED ACCORDINGLY.”

Mr. Kumpf made some suggestions for improving the rationale for the motion; Mrs. Jensen agreed to provide additional background information to the Section 9 Head and TAC, explaining the positive aspects of combining the two committees, including taking the strength of both committees and using this as an opportunity to build on those strengths.

No more discussion, Mrs. Jensen called the question on the motion.

Vote: 6-0-0 CV. The motion was approved.

**New Business:**

1. Mrs. Jensen was approached yesterday by Tae Kwon of AHRI. He was interested in partnering in educational opportunities with TC 9.2. Mr. Ghosh got his card and said they are going to talk.
2. Mr. Connor is said that there may be growing competition between us since they are having more and more speakers at the product show.
3. No more new business

The Chair then called for Motion to Adjourn – Motion by Mr. Marple. Motion passed unanimously, 6-0-0 CV.

**Meeting Adjourned at 3:20 PM**

**Sincerely,**

***Paula Hernández***  
***TC 9.2 Secretary***

**AGENDA**  
**SECTION TC/TG/TRG CHAIR'S BREAKFAST MEETING**  
2017 Winter Meeting  
Las Vegas, NV

**Sunday, January 29th**

**6:30 A.M. – 8:00 A.M. EST**

**Caesar's Palace – ALL Section meetings located on Pool level**

**Section 1**, Forum 11 Room

**Section 3** Forum 3 Room

**Section 5**, Forum 20 Room

**Section 7**, Forum 12 Room

**Section 9**, Forum 4 Room

**Section 2**, Abruzzi Room

**Section 4**, Forum 13 Room

**Section 6**, Tribune Room

**Section 8**, Forum 5 Room

**Section 10**, Forum 6 Room

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.Review and approval of minutes (3 minutes).
- a.4.Summarize discussion from last meeting and status of actions assigned (5 minutes).
- a.5.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.5.1. Research Administration
  - a.5.2. Conference and Exposition Committee (CEC)
  - a.5.3. Handbook
  - a.5.4. Other Standing Committees
- a.6.Discuss the MBOs set for the year and how the section can work together to address them (10 minutes).
- a.7.Review summary report for the Section prepared from the TC/TG activity database and TAC (15 minutes).
  - a.7.1. Section activities and trends will be discussed relating to membership, research, programs, publications and new communication tools and services.
- a.8.Identify shared opportunities and challenges for section (10 minutes).
- a.9.Announcements and Reminders for TC/TG/TRG & MTG Chairs (Handout)
- a.10. Adjourn.

**Note: This agenda will be discussed and finalized during the full TAC meeting in Las Vegas. This draft of the agenda is only intended to promote thinking prior to and discussion during that meeting.**

**Announcements and Reminders for TC/TG/TRG & MTG Chairs  
LAS VEGAS 2017**

**A. NEW!**

**1. 2016-2017 Hightower Award Recipient – Paul Lindahl, TC 3.6 & TC 8.6**

Mr. Paul Lindahl's contributions to ASHRAE TC 3.6 and TC 8.6 in the past four years include being a handbook contributor to multiple chapters, a special liaison assignment to SSPC 90.1, and tours in various leadership positions on both TCs.

Mr. Lindahl's contributions to ASHRAE technical committees, and especially to TC 3.6 and TC 8.6 in the last four years, have been exemplary and make him a well deserving recipient of the George B. Hightower Technical Achievement Award.

**2. 2016-2017 Service to ASHRAE Research Award Recipient - Joseph Huber, TC 1.3**

Mr. Joseph Huber's contributions to ASHRAE TC 1.3 (Heat Transfer and Fluid Flow) in the past four years included being a contributor to multiple RTARs and work statements. Research Subcommittee chair for the TC, and Proposal Evaluation Subcommittee (PES) member, and Project Monitoring Subcommittee (PMS) member for multiple projects.

Mr. Huber's contributions to ASHRAE technical committees, and especially to TC 1.3 in the last four years, have been exemplary and make him a well deserving recipient of the Service to ASHRAE Research Award.

**3. ASHRAE members for SY 16-17 now have free online access to ASHRAE's *Science and Technology for the Built Environment (STBE)* through their existing ASHRAE.org account**

STBE is ASHRAE's archival research publication offering comprehensive reporting of original research in science and technology related to the stationary and mobile built environment, including indoor environmental quality, thermodynamic and energy system dynamics, materials properties, refrigerants, renewable and traditional energy systems and related processes and concepts, integrated built environmental system design approaches and tools, simulation approaches and algorithms, building enclosure assemblies, and systems for minimizing and regulating space heating and cooling modes. The journal also features review articles that critically assess existing literature and point out future research directions.

You can access your free online subscription to STBE through the ASHRAE website under the blue bar drop-down menu – *Resources & Publications*. ASHRAE will reassess the free access option on an annual basis and may discontinue access if interest is low.

**4. New ASHRAE Technology Portal is Now Available**

The new ASHRAE Technology Portal provides easier free member access to ASHRAE Journal articles and ASHRAE Research Reports through a new robust search feature. We will still sell the reports and articles in the bookstore for nonmember purchase. URL <http://technologyportal.ashrae.org>.

**5. Peer Review of *Advanced Energy Design Guide for K-12 School Buildings: Achieving Zero Energy***

In partnership with AIA, IES, and USGBC and with support from the DOE, ASHRAE has embarked on a new series of Advanced Energy Design Guides focusing on achieving zero energy performance. The first guide in the series is for K-12 School Buildings. The project committee is finalizing the first draft in anticipation of the first peer review. The 65% Complete Technical Refinement Draft for the Advanced Energy Design Guide for K-12 School: Achieving Zero Energy will be available for review and feedback from February 6, 2017 to February 17, 2017. All review input must be received by February 19, 2017. Once received, the input will be compiled and then reviewed by the committee who will make changes to the draft based on that input. To participate in the review, please go to [www.ashrae.org/freeaedg](http://www.ashrae.org/freeaedg) to download the review process instructions and review input form as well as a copy of the document for review (in pdf format). The draft will be available for download starting on February 6, 2017 through Friday, February 17, 2017.

**6. One New Multidisciplinary Task Groups (MTGs) have been formed since St. Louis meeting**

**MTG.ACR – Air Change Rate**

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

The following committees and outside groups are currently represented on this MTG: TC 2.2, 4.3, 5.3, 5.8, 9.2, 9.6, 9.10, 9.11, SSPC 62.1, SSPC 170, I2SL, NIOSH, AIHA and potentially more that wish to also join.

The chair of this MTG is Kishor Khankari.

For more information on this new MTG and the nine other existing 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).

**7. Updated TC Website Template – Initial Feedback, if any?**

Since the Atlanta meeting, the Society's Electronic Communication Committee (ECC), ECC staff, TAC volunteers Gage and Cooper, and a consultant have been working to modernize and streamline the template for TC websites and now most of the TC websites have been moved to this new template. The new template so far includes

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WIZYWIG editing, automatic rosters, and simplified document uploading. There is no longer a need for HTML editing. If you have any feedback on the new template or suggestions for additional features, please let your Section Head and MORTS know.

### 8. **New Restructured TC MOP (Manual of Procedures) to be issued after Las Vegas Meeting**

TAC has restructured the TC MOP so that it is easier to navigate and find information.

### 9. **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](http://www.ashrae.org/TCs))

## **B. AT THIS MEETING**

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

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

Sunday January 29th, 9:45-10:45 AM in Roman I Room (Promenade Level) in the Caesars Palace Hotel. Roster Update training will be the primary topic of discussion, but other information for TCs will also be announced at this meeting. TAC is also interested in any feedback you have to offer on current TC programs and procedures.

#### **ii. RAC's Research Subcommittee Chair's Breakfast**

Monday, January 30th, 6:30 AM – 8:00 AM in Roman III Room (Emperors Level) in the Caesars Palace 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 the duties and responsibilities of Project Monitoring Subcommittee members.

#### **iii. TC Program Subcommittee Chair Training in Las Vegas**

Tuesday, 1/31, 11:15 AM – Noon, in Forum 23 Room (Pool Level) in the Caesars Palace 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

iv. **Handbook Training for TCs**

ASHRAE Authoring Portal

Sunday, 1/29, 8 AM to 9 AM, in Turin Room (Promenade Level) in the Caesars Palace Hotel.

This session will introduce the new [ASHRAE Authoring Portal](#) for collaborative work on Handbook chapters or other publications. The session will also show new TC Handbook chairs (and TC chairs) what they need to know about Handbook chapter development and revision—the process, the product, and how to succeed. Includes time for Q&A and discussion.

Volume/TC Meetings

Sunday, 1/29, 9 AM to 10 AM

**2018 Refrigeration**, Room: Forum 19 (Pool level)

**2019 HVAC Applications**, Room: Forum 3 (Pool level)

**2020 HVAC Systems and Equipment**, Room: Forum 18 (Pool level)

The agenda for these Handbook-volume-specific meetings will include topics of interest/applicability to all chapters, plus time for Q&A and individual consultation between Handbook Committee liaisons and TC Handbook chairs. Liaisons will still do their best to attend TC Handbook Subcommittee meetings for additional consultation as needed.

We know some TCs have chapters in more than one volume. If your TC has chapters in more than one volume, **you should go to the volume meeting for the chapters that are due the soonest**. And if your TC hasn't appointed a Handbook Subcommittee chair or representative who can attend one of these meetings, now would be a great time to do so.

On behalf of the Handbook Committee, staff, and ASHRAE Handbook users everywhere, thank you for your continuing dedication to this effort.

v. **Seminar 30 – Electronic Project and Document Management: An Introduction and ASHRAE's System**

Monday, 1/30, 11 AM to 12 PM, in Augustus III/IV Room (Emperors Level) in the Caesars Palace Hotel.

- *Basecamp Fundamentals* – Cynthia Callaway, P2S Engineering Inc., Long Beach, CA
- *ASHRAE Authoring Portal* – Mark Owen, Handbook Editor, ASHRAE, Atlanta, GA

2. **Location of Section Head Mailboxes & Free Wi-Fi Access at this Society meeting**

Mailboxes are located just outside ASHRAE Headquarters Office (Forum 8-10 – Pool Level – Caesars Palace Hotel).

Also, Internet access and computers for e-mail are available in the Cyber Café located in the registration area (Palace I, Emperors Level, of the Caesars Palace hotel) 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 Caesars Palace. ASHRAE will be working with the internet provider to manage the bandwidth so that member

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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. Wi-Fi Access: **ashrae2017** is the network, **lasvegas** is password (case sensitive).

### 3. **RPM (Remote Participation Meetings) being held in Las Vegas**

The 11th RPM beta test (Remote Participation Meetings – Formerly known as E&P meetings), which allows some TC members to participate in the TC meeting from a remote location electronically, will occur in Las Vegas and the following twelve TCs have agreed to participate in this test: TC 4.2, TC 4.5, TC 6.8, TC 7.3, TC 7.8, TC 7.9, TC 9.2, TC 9.4, TC 10.3, TC 10.6, MTG.CCDG, and MTG.LowGWP – In addition to these TCs, 19 PCs and 2 Ad hoc committees also hosted RPM meetings in Las Vegas. Overall, RPM requests exceeded our capacity on Monday and Tuesday with six RPM sets, but I'm happy to report that 4 additional RPM sets will be purchased for use at the Long Beach meeting. This will allow us to host 10 RPM meetings simultaneously in Long Beach. The chairs of those TCs participating should provide to their Section Head feedback on their RPM meeting experience before TAC meets on Wednesday morning, 2/1.

## C. UPCOMING DEADLINES

### 1. **17-18 Roster Update Process & TC Input Deadline**

Remember, the current 2016-2017 roster for your TC, TG or MTG is in effect until after the June meeting this year. The new committee rosters for Society year 2017-2018 will be created based upon the update information that each TC, TG or MTG provides to their section head at this meeting **by midnight, Tuesday, 1/31/17** and these new rosters will go into effect on July 1, 2017. Please see your section head for the 2017-2018 Roster Update form if you still need a copy.

### 2. **TC Activity Forms for the Las Vegas Meeting are due to Your Section Head before Wednesday, 2/1/17**

*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.

### 3. **Seminar and Forum proposals for Long Beach are due by Monday, February 6th, 2017**. Please visit the following site to submit your proposal:

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

## D. REMINDERS

1. **16-17 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.



## Announcements and Reminders for TC/TG/TRG & MTG Chairs LAS VEGAS 2017

By now, each TC, TG and MTG chair should have received a PDF & MS-Excel file of their new 2016-2017 roster from their Section Head or staff for distribution to the committee. In addition, each member can view all of the rosters of their committees on the ASHRAE Website. Go to [www.ashrae.org](http://www.ashrae.org) <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.

### **2. 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>

An updated draft of the TC/TG/TRG Manual of Procedures (MOP) is being considered for approval by TAC at the Las Vegas meeting and it is expected to be posted soon to this site and announced to all TC chairs once posted.

### **3. 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/>

### **4. 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.

### **5. 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)

**6. Is Your Committee Website up to Date?**

If not, please ask your webmaster to at least post the latest minutes and the Las Vegas 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](mailto:scomstock@ashrae.org)). 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 (<https://www.ashrae.org/standards-research--technology/technical-committees/tc-training-and-presentations>). On the same page, a video has also been posted for use by webmasters to learn about the procedures and schedules for maintain the new websites.

**7. TC 2016-2017 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.

### **E. RECENT ANNOUNCEMENT**

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

In 2015-2016, RAC started 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 Houston 2018 meeting and annual and winter conferences beyond as well as topics for specialty conferences from TC members.

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

CEC is particularly interested right now in getting suggestions for the 2018 Annual Meeting Program in Houston, TX. Please submit your suggestions before February 20, 2017.

#### **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.

There is also now a link on the following webpage of the ASHRAE website where you can volunteer online to be a paper reviewer: <https://www.ashrae.org/membership--conferences/conferences/papers-and-programs#reviewers>

**4. TAC Presentation Template for TC members to use with local Chapter**

TAC developed a presentation template that 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 on the Technical Committee page of the ASHRAE website for download under the heading "General TC Information."

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

The need is for 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 would include courses with a focus on new technologies that need to be shared, fundamentals that may have been forgotten, standard applications that need explanation, and courses based on new design guides.

The objective of the ASHRAE Learning Institute (ALI) is to provide quality, authoritative and practical technical information of broad interest.

Contact Karen Murray (ASHRAE staff) at [kmurray@ashre.org](mailto:kmurray@ashre.org) with new course ideas.

**F. CURRENT & UPCOMING ASHRAE CONFERENCE PROGRAMS**

**1. Program Focus at Las Vegas Winter Conference**

The Las Vegas Conference Technical Program addresses a wide variety of topics in the application of technology to practice. Specific program tracks are as follows:

Program Focus at Las Vegas Winter Conference

- i. Track 1: Fundamentals and Applications
- ii. Track 2: HVAC&R Systems and Equipment
- iii. Track 3: Water-Energy Nexus
- iv. Track 4: Commercial and Industrial IAQ
- v. Track 5: Mission Critical Design and Operation
- vi. Track 6: Effects of Climate Change on HVAC&R
- vii. Track 7: Energy Efficient Industrial Buildings
- viii. Track 8: Building Operation and Performance

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

Seminar and Forum proposals for St. Louis are due by **Monday, February 6th, 2017.**

Conference Website: [www.ashrae.org/LongBeach](http://www.ashrae.org/LongBeach)

Conference Program Chair: Ann Peratt Email: [ann.peratt@gmail.com](mailto: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

**3. CEC Seeks Program Tracks Suggestions for the 2018 Annual Meeting in Houston, TX**

CEC is seeking track suggestions for the 2018 Annual meeting technical program. If you have a suggested track, please pass it on to Tony Giometti, staff liaison to CEC, at [PRGstaff@ashrae.net](mailto:PRGstaff@ashrae.net) before February 20, 2017.

Additional information on past, present, and potential future tracks can be found at the end of this handout as additional information

**G. OTHER UPCOMING WORKSHOPS, CONFERENCES AND EVENTS**

**1. 2017**

- i. **2017 ASHRAE Winter Meeting** – Jan. 28 to Feb. 1, 2017 – Las Vegas, NV USA – Contact: <http://ashraem.confex.com/ashraem/w17/cfp.cgi>
- ii. **2nd International Conference on Energy and Indoor Environment for Hot Climates** - February 26 - 27, 2017 - Doha, QATAR – Contact: <https://www.ashrae.org/membership--conferences/conferences/ashrae-conferences/energy-and-indoor-environment-for-hot-climates>
- iii. **2017 American Society of Thermal and Fluids Engineers (ASTFE) Conference and 4th International Workshop on Heat Transfer (IWHT)** – Apr. 2 – Apr. 5, 2017 – Las Vegas, NV USA – Contact: <http://www.astfe.org/tfec2017/>
- iv. **Sustainable Management of Refrigeration Technologies in Marine and Off-Shore Fisheries Sectors** – April 6-8, 2017 - Bangkok, Thailand – Contact: <https://www.ashrae.org/membership--conferences/conferences/ashrae-conferences/marine-2017>

## Announcements and Reminders for TC/TG/TRG & MTG Chairs LAS VEGAS 2017

- v. **Take Control: Using Analytics to Drive Building Performance Webcast** – Apr. 20, 2017 – 1 pm to 4 pm EDT – Contact: [www.ashrae.org/webcast](http://www.ashrae.org/webcast)
- vi. **Beyond NZEB: Retrofit of Existing Buildings** – May 10 - 11, 2017 – Matera, ITALY - Contact: <http://www.aicarr.org/Pages/EN/Upcoming%20Events/2016/50AiCARR.aspx>
- vii. **Climamed 2017** – May 12 – 13, 2017 – Matera, ITALY – Contact: [http://www.aicarr.org/Pages/Convegna/CLIMAMED\\_2017/Call\\_for\\_papers.aspx](http://www.aicarr.org/Pages/Convegna/CLIMAMED_2017/Call_for_papers.aspx)
- viii. **12th IEA International Heat Pump Conference** – May 15 to May 18, 2017 – Rotterdam, NETHERLANDS – Contact: <http://hpc2017.org/> See attached brochure for additional information.
- ix. **2017 ASHRAE Annual Conference** – June 24 – June 28, 2017 – Long Beach, CA USA – contact: <https://ashraem.confex.com/ashraem/s17/cfp.cgi>
- x. **Building Simulation 2017** – Aug. 7 – Aug. 9, 2017 – San Francisco, CA USA – Contact: <http://www.buildingsimulation2017.org/>
- xi. **ISHPC2017** – Aug. 7 – Aug. 10, 2017 – Tokyo, JAPAN – Contact: <http://biz.knt.co.jp/tour/2017/ISHPC2017/congress.html>
- xii. **ASHRAE Building Performance Analysis Conference** – September 27-29, 2017 – Atlanta GA, USA – Contact: <https://ashraem.confex.com/ashraem/bpa17/cfp.cgi>
- xiii. **2<sup>nd</sup> ASHRAE Developing Economies Conference** – Nov. 10-11, 2017, Delhi, INDIA – Contact: <https://ashraem.confex.com/ashraem/de17/cfp.cgi>

Cindy Moreno

Michael Collarin

Track No.	A2018 Houston	W2018 Chicago
1	Fundamentals and Applications	Fundamentals and Applications
2	HVAC&R Systems and Equipment	HVAC&R Systems and Equipment
3	District Energy and Cogen Plants	Standards, Guidelines and Codes
4	Safeguarding your HVAC&R System	Earth, Wind & Fire
5	Residential: Modern Buildings in Hot and Humid Climates	Beyond the "L": IAQ and Air Conditioning in Transportation Applications and Enclosed Vehicular Facilities
6	Professional Skills	Tall Buildings
7	Controls: Troubleshooting Building Management Systems	Modeling Throughout the building Life Cycle
8	Research Summit	Performance and Design of Heat Exchange Equipment under Real Field Type Conditions
9		Refrigerant Mini Track @ Expo

Ann Peratt

Leon Shapiro

A2017

W2017

Long Beach

Las Vegas

Fundamentals and Applications

Fundamentals and Applications

HVAC&R Systems and Equipment

HVAC&R Systems and Equipment

Refrigeration

Water-Energy Nexus

Building Life Safety Systems

Commercial and Industrial IAQ

Controls: Smart Building Systems and  
the Security Concerns as Technology  
Emerges

Mission Critical Design and Operation

Commissioning: Optimizing New and  
Existing Buildings and their Operation

Effects of Climate Change on  
HVAC&R

Net Zero Energy Buildings: The  
International Race to 2030

Energy Efficient Industrial Buildings

Residential Buildings: Standards  
Guidelines and Codes

Building Operation and Performance

Research Summit



Tom Kuehn

Jennifer Leach

A2016

W2016

St Louis

Orlando

Advances in Refrigeration Systems  
and Alternative Refrigerants

[Systems and Equipment](#)

Research Summit

[Fundamentals and Applications](#)

Fundamentals and Applications

[Design Build](#)

HVAC Systems and Equipment

[International Design](#)

Smart Building Systems/Remote  
Monitoring and Diagnostics

[Standards, Guidelines and Codes](#)

Indoor Environment: Health,  
Comfort, Productivity

[Cutting Edge Technologies](#)

Professional Skills Beyond  
Engineering

[The Great Debate](#)

Renewable Energy Systems and Net  
Zero Buildings

[Modern Residential Systems](#)

David Claridge

Doug Cochran

A2015

W2015

Atlanta

Chicago

[HVAC&R Systems & Equipment](#)

[Systems & Equipment](#)

[HVAC&R Fundamentals & Applications](#)

[Fundamentals & Applications](#)

[Research Summit](#)

[Industrial Facilities](#)

[Refrigeration](#)

[Large Buildings: Mission Critical Facilities and Applications](#)

[Building Operation, Maintenance, and Optimization/Commissioning](#)

[Energy Efficiency](#)

[Indoor Air Quality](#)

[Life Safety](#)

[Modeling Throughout the building Life Cycle](#)

[Design of Energy and Water Efficient Systems](#)

[High Performance Buildings](#)

[Hospital Design & Codes](#)

[Moving AEDG's into the Mainstream](#)

Mike McDermott

Jon Cohen

A2014

W2014

Seattle

New York

[Indoor Environment – Health,  
Comfort and Productivity](#)

[Systems and Equipment](#)

[Research Summit](#)

[Fundamentals and Applications](#)

[Ground Source Heat Pumps State of  
the Art: Design, Performance and  
Research](#)

[Environmental Health Through IEQ](#)

[HVAC&R Systems & Equipment](#)

[Building Information Systems;  
Integrating technology for control,  
management, optimization and  
efficiency](#)

[HVAC&R Fundamentals and  
Applications](#)

[International Design](#)

[Standards, Guidelines and Codes](#)

[Building Performance and  
Commissioning for Operation and  
Management](#)

[Refrigeration](#)

[Hydronic System Design for Efficiency  
and Large Buildings](#)

[Installation, Commissioning,  
Operation, Maintenance of Existing  
Buildings](#)

[Tall Buildings: Performance Meets  
Policy](#)

[Professional Skills](#)

Sarah Maston

A2013

W2013

Denver

Dallas

Research

[HVAC&R Systems & Equipment](#)

Research

[HVAC Fundamentals and Applications](#)

[Integrated Project Delivery](#)

[Standards, Guidelines and Codes](#)

[Building Energy Modeling vs.  
Measurement & Verification- Closing  
the Gap](#)

[Energy Conservation](#)

[Mile-High Efficiency & Equipment](#)

[Refrigeration](#)

[Renewable & Alternative Energy  
Sources](#)

[Large Building Design](#)

[HVAC&R Systems & Equipment](#)

[Facility Management; Operations,  
Technology and Energy  
Improvements](#)

[HVAC&R Fundamentals &  
Applications](#)

[Industrial & Transportation  
Ventilation](#)

## **Attachment B**

### **Program Chair Report for TC 9.2 , Las Vegas**

**January 31, 17 V Gupta**

ASHRAE theme for year 2016-2017 per President Tim Wentz

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“ Shaping the Tomorrow's Built Environment Today “

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#### **Past Programs**

**Program delivered at Winter Meeting- January, 15, Chicago, IL and Plan for Atlanta, GA 1. Jan 28, 15 9.54AM- 10.45 AM**

Seminar -Title- “ Current topics in Heat Recovery for Industrial Facilities. Sponsored by TC-9.02

Chair – Dr Pradeep Bansal ( Mike Connor was not available) Track- Industrial Facilities Speakers- V P Gupta, PE and ASHRAE Fellow, Ravi Ganta ( was not able to make it)

**2. Jan 28,15 11.00AM-12.30PM**

Workshop- Applicable standards for ventilation for Hazardous spaces Speakers- Ghosh, Binder

**Seminar/workshop – delivered at Atlanta, GA for June, 2015 :**

**a. No Programs Planned for Orlando , St Louis , Las Vegas ( I am not aware of any)**

**a. Future Planning**

1. Seminars 2. Workshop 3. Technical Papers 4. Forum

**Seminars/Workshops/Forum under consideration from prior years are:**

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We should Plan? Discussion ?

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1. Topic- Will Green Technologies affect Industrial applications- Zero Impact, Zero energy a.

Speakers- Clemens, Gupta TC 9.2, TC 5.8

2. Topic- What Industrial Technical Committees do in ASHRAE a. Speakers- Kevin Marple,

Connor, Morgan TC 9.2, TC 5.8, TC-5.4

3. Topic- Industrial Energy Generation and savings for Sustainable operations a. Speakers-

Binder, Gupta

4. Topic- Battery Room Ventilation- June, 16 in St Louis, MO a. Speakers- Deep Ghosh, Binder,

Others TC-9.9

5. Topic- Design build of Industrial Facilities/Industrial equipment a. Speakers

Binder, Maxwell, Gupta

6. Forum under Consideration- Use of Desiccant in Ultra Low Dehumidification -Ganta, Maxwell?



## Conferences and Expositions Committee Information Items for Technical Committees

### Winter Meeting, Las Vegas 2017

#### 1. Program Omissions

CEC apologizes for inadvertently omitting TC sponsorship of programs. We appreciate your support of the technical program and all the effort that goes into providing the society with quality technical presentations. We are working to prevent this from happening in the future.

#### 2. Program statistics for Las Vegas; for a total of 109 available slots:

##### **Conferences Papers**

- 164 conference paper abstracts submitted, 145 approved
- 102 conference papers received
- 81 conference papers presented in 22 Conference Paper Sessions

##### **Technical Papers**

- 42 conference papers received
- 30 conference papers presented in Poster Sessions

##### **Seminars**

- 152 submitted
- 76 presented

##### **Workshops**

- 18 submitted
- 7 presented

##### **Forums**

- 8 submitted
- 3 presented

##### **Panel**

- 8 submitted
- 3 presented

#### 3. Programs In TC Meetings

TC's can request a program for a TC meeting instead of the technical program by indicating their preference in their program submission. The Conference deadlines still apply. Alternately, programs not accepted for technical program, can be requested to be presented during the TC's scheduled meeting time. Presentations in TC meetings will need to undergo the same commercialism review as other programs.

#### 4. Potential Sources Bias Disclosure:

Starting at the 2016 Annual Meeting in St. Louis, speakers will be asked to fill out a potential sources bias disclosure document that will note an affiliations/involvement with any organizations with financial or commercial interest in the subject matter to be discussed, in accordance with the ASHRAE code of ethics.

#### 5. Student Paper Recognition:

Starting at the 2017 Las Vegas meeting CEC will be recognizing student papers. Certificates will be awarded to students at their assigned conference paper session. There will be (1) "Best Paper" and (2) Honorable Mentions for graduate candidates and <sup>PhD</sup> PhD candidates (6 total papers awarded).

#### 6. Presentations:

CEC has had an ongoing issue with presentations not being uploaded for commercialism review before the conference, which creates difficulties for reviewing presentations on site. Presentation requirements include:

- a. Presentations must be complete and uploaded for commercialism review before the deadline (**June 2, 2017 for Long Beach**).
- b. Starting with the 2017 Annual Meeting in Long Beach, CEC will be enforcing a 3 strike policy for speakers who do not up load their presentation by the published deadline.

#### 7. New Program Types:

Panel Discussion: These sessions feature a broad range of subjects and explores different perspectives on issues in the industry.

Debate: These sessions highlight hot-button issues. Experts, either on teams or as individuals, present different sides of an issue in debate format. Each participant presents evidence for or against a specific statement or question.



Panel Discussions and Debate session will have a moderator, 3-4 participant. Neither require learning objectives or question-and-answer sets. Neither are eligible for GBCI or AIA credit.

8. 2017 ASHRAE Annual Conference in Long Beach, CA: [www.ashrae.org/LongBeach](http://www.ashrae.org/LongBeach)

- a. Seminar, Forum and Workshop proposals are due February 6, 2017
- b. Confex opens for presentation uploads May 1, 2017, presentations due online June 2, 2017.
  - ***Track 1: Fundamentals and Applications***  
Track Chair: Frank Schambach Email: frankschambach@mindspring.com
  - ***Track 2: HVAC&R Systems and Equipment***  
Track Chair: Jennifer E. Leach Email: pennst8jen@yahoo.com
  - ***Track 3: Refrigeration***  
Track Chair: Vikrant Aute Email: vikrant@umd.edu
  - ***Track 4: Building Life Safety Systems***  
Track Chair: Robert Alan Neely Email: alan\_neely@pghcorning.com
  - ***Track 5: Controls–Smart Building Systems and Security Concerns as Technology Emerges***  
Track Chair: Melanie Derby Email: derbym@ksu.edu
  - ***Track 6: Commissioning–Optimizing New and Existing Buildings and their Operation***  
Track Chair: Dennis Alejandro Email: denzjac@yahoo.com
  - ***Track 7: Zero Net Energy Buildings – The International Race to 2030***  
Track Chair: Jason DeGraw Email: jason.degraw@nrel.gov
  - ***Track 8: Residential Buildings – Standards Guidelines and Codes***  
Track Chair: Kimberly Pierson Email: kdpwildcat@gmail.com
  - ***Track 9: Research Summit***  
Track Chair: Ann Peratt Email: ann.peratt@gmail.com

9. 2018 ASHRAE Winter Meeting Chicago, IL: [www.ashrae.org/Chicago](http://www.ashrae.org/Chicago)

- a. Conference Papers Abstracts due ~~August 29, 2016~~, Papers due ~~December 9, 2016~~
- b. Program submissions are due ~~February 6, 2017~~ *August 6, 2017*
- **Track 1: Systems and Equipment**  
Track Chair: Carrie Anne Crawford Email: [carriecrawford@eeace.com](mailto:carriecrawford@eeace.com)
  - **Track 2: Fundamentals and Applications**  
Track Chair: Kevin Marple Email: [kmarple@benzco.com](mailto:kmarple@benzco.com)
  - **Track 3: Standards, Guidelines and Codes**  
Track Chair: Corey Metzger Email: [corey.metzger@resourcece.com](mailto:corey.metzger@resourcece.com)
  - **Track 4: Earth, Wind & Fire**  
Track Chair: Ashish Rakheja Email: [ashish.rakheja@aeonconsultants.in](mailto:ashish.rakheja@aeonconsultants.in)
  - **Track 5: Transportation IAQ and Air Conditioning**  
Track Chair: Dimitris Charalambopoulos Email: [dimitris@ashrae.gr](mailto:dimitris@ashrae.gr)
  - **Track 6: Tall Buildings**  
Track Chair: Leticia Neves Email: [leneves@gmail.com](mailto:leneves@gmail.com)
  - **Track 7: Modeling Throughout the Building Life Cycle**  
Track Chair: Joseph Firrantello Email: [j.firrantello@gmail.com](mailto:j.firrantello@gmail.com)
  - **Track 8: Heat Exchange Equipment**  
Track Chair: Vikrant Aute Email: [vikrant@umd.edu](mailto:vikrant@umd.edu)
  - **Track 9: Refrigerant Mini Track @ Expo\***  
Track Chair: Gary C. Debes Email: [gcdebes@verizon.net](mailto:gcdebes@verizon.net)

## 10. CEC Call for Reviewers:

CEC is looking into a better method of finding reviewers and maintaining a list of reviewers by TC and areas of expertise. A new program will be introduced in the future.



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# Semiconductor and Nanotechnology Facilities

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## General

Semiconductor facilities are growing in presence in areas other than just wafer fabrication and most notably are being found in University based research settings where the owners and operators of these kinds of facilities are not completely versed in the design aspects as well as how construction and subsequent operation should occur. The semiconductor industry has designed, constructed and maintained these facilities for decades, but the introduction of facilities with similar attributes such as toxic gas and chemical storage, handling and dispensing systems are relatively new to research facilities. This chapter will brief the reader on the various aspects of these types of facilities and alert the reader what the principal issues are and where additional detailed information may be found within the publications of other societies and building code authorities.

## Types of facilities

**Wafer Fabrication**

**Solar Panel Manufacturing and Research**

**Nanotechnology and Nano-biotech**

## Definitions

## Publications

## Codes

## Functional Areas

A brief description of each area and the types of activities that take place as well as discussion on why a yellow room is yellow for example.

**Clean Rooms**

**Yellow Rooms**

**Chemical Storage**

**Gas Storage**

**Waste Handling**

**Lithography**

## **Applied Equipment**

A discussion on the different types of equipment that are commonly found in semiconductor facilities. Reference to other locations within ASHRAE documentation will be given where more detailed information can be found

### **Air Handling Units**

### **Filtration**

### **Fan Filter Units**

### **Exhaust Fans**

### **Scrubbers**

### **Humidification**

## **Systems**

Discussion on how these systems are applied to semiconductor facilities and what impact they have on facility design and safety systems

### **Exhaust Systems**

### **Gas Detection and Alarm**

### **Pollution Control**

### **Waste Collection**

## **Risk Analysis**

An introduction to quantitative risk based analysis and how they are applied to different systems and the overall facility. Also an introduction to Safety Integrity Level (SIL) calculations will be provided and how this analysis impacts HVAC systems

### **Risk Analysis**

### **Safety Integrity Level**