

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-
CONDITIONING ENGINEERS, INC.

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TC/TG/TRG MINUTES COVER SHEET

TC/TG/TRG NO: **TC 7.3**

DATE: **Jan 26, 2016**

LOCATION: **Orlando, FL**

TC/TG/TRG TITLE: **Operation and Maintenance Management**

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Steven Sill (cm)	2015-	Steven Blanc (cm)	2003-16	Kirk Bond (cm)	2002-16

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David Norvell (cm)	2015-	William Artis (cm)	2015-	Amanda McKew (cm)	2011-
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Don Guam (g)		Patrick Carpenter (cm)	2011-	Thomas Lawrence (TAC Chairman)	2015-16
Michael Brambley (cm)	2012-	Dominador Guzman Castro (cm)	2011-	Thomas Reinarts (cm)	2002-16
Mike Smith (g)		Brian O'Donnell (cm)	2006-16	John Rieke (cm)	1995-
Peter Strazdas (g)		Joseph Driscoll III (cm)	2002-	Jeff Rutt (cm)	2006-16
Yuebin Yu (g)		Chris Draper (cm)	2012-	William Ryan (cm)	2011-
Rob Falke (g)		Keith Dempsey (cm)	2013-	Adolph Rydzewski (cm)	2007-
Alexander Zhivor (g)		David Underwood (cm)	1991-	Scott Sepsy (cm)	2007-16
Tom Javins (on-line) (cm)	2015-	Shailen Verma (cm)	2012-	George Sestak (cm)	1993-
		Forrest Yount (cm)	2006-	Glenn Hourahan (cm)	2014-
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		Mark Lowry (cm)	2014-	James Newman (cm)	2013-
		Joe Marchese (cm)	2014-	James Sweeney (cm)	2014-
		Michael Cooper (Chapter Tech Transfer Chair)	2015-17	Andrew Wengard (cm)	2014-
		Doug Yon (cm)	2014-	Phillip Haves (Research Liaison)	2012-16
		Dr. Bryan Becker (Handbook Liaison)	2015-16	Rick Larson (Standard Liaison)	2013-16
		Cameron Lapunski (ALI/PDC)	2015-16	Michael Vaughn (Staff Liaison)	2001-
		Treasa Sweek (cm)	2015-	Stephane Munger (cm)	2015-
		Anne Marshall (cm)	2015-16	Michael Khaw (cm)	2015-
		Cameron Lapunski (ALI/PDC)	2015-16	Michael Vaughn (Staff Liaison)	2001-
		Julia Day (cm)	2015-	Richard Dames (cm)	2012-16
		Phillip Naughton (pcm)	2015-17	Liam Lafferty (pcm)	2016-18
		David Handwork (pcm)	2016-18	Syed Subukutheen (pcm)	2015-17

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Call to Order/Scope/Introductions

John Constantinide called the meeting to order at 1:05 PM. The scope of the committee was read. Attendees in the room introduced themselves. An attendance sheet was circulated. Discussion and moment of silence was held for the passing of our Chairman Bob Baker.

Voting Member Roll Call

Bob Sibilski took roll call of the voting members. At the time of roll call, nine (9) voting members were present of the twelve (12). A quorum was established.

Approval of the Agenda

The agenda for the meeting was presented. Motion was made to accept and seconded. Approved by unanimous voice vote 8-0-0 (chair not voting).

Society Liaison and Guest Presentations

Section Head Adrienne Thomle was at the meeting and wanted to thank all for the work that the committee has done and especially how things were picked up with the passing of Bob Baker.

Approval of Atlanta Meeting Minutes

The draft meeting minutes from Atlanta were reviewed. Minor change to attendee list. Motion to approve the minutes was made and seconded. Approved by unanimous voice vote 8-0-0 (chair not voting).

ASHRAE Administrative Matters/Correspondence/Announcements

1. TC Chair Breakfast Sunday morning attended by John Constantinide and Bob Sibilski.
2. Upcoming Events – John Constantinide reviewed upcoming events and meetings. Additional details may be found on the ASHRAE website under Events.
3. Upcoming ASHRAE Winter/Annual Conferences dates:
 - St. Louis Jun 25 – Jun 29, 2016
 - Las Vegas Jan 28 – Feb 1, 2017
 - Long Beach Jun 24 – Jun 28, 2017
 - Chicago Jan 20 – 24, 2018
4. Those that would like Thank you letters sent from ASHRAE to your employer can be done in the next few weeks. A letter from ASHRAE will be sent to you with information to submit request for a thank you letter.
5. Looking to see if anyone is interested in nominating someone for a Fellows or Distinguished Service award. Criteria is on the ASHRAE site.

Sub-Committee Reports

Research Sub-Committee – Chair: Michael Bobker

There was no Sub-Committee meeting.

RP 1609. Update. Project completed. Scheduled for seminar at Winter 2017 meeting.

1650-TRP-C, *Training Requirements for Sustainable, High Performance Building Operation*; Responsible Committee: TC 7.3 (Operation and Maintenance Management); Co-Sponsors: TC 7.6 (Building Energy Performance), TC 7.8 (Owning and Operating Costs); Co-funding: None; Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$68,000

- Status: **Conditionally Accepted**. Work with RL to clear RAC's conditions so project can bid.
- **Davidge will lead effort to obtain bids.**

Handbook Sub-Committee – Chair: Mina Agarabi

The following are minutes submitted from the Handbook Sub-Committee:

1. Welcome and Introductions
2. Approval of previous meeting minutes
3. Current chapter status
4. Selected 2015 chapter reviewers
 - a. Design:
 - b. Operations: Danks, Norvell, Trueman
 - c. Trade: Simonsen, Brueckner, Gallagher
 - d. Other: Agarabi, Ellis
5. Selection of Chapter Section Revisers
 - a. O&M as Part of Building LCC
 - b. Elements of Successful O&M Programs
 - c. AFDD
 - d. Documentation
 - e. Staffing
 - f. Managing Changes in Buildings
6. Review Checklist

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7. Review Timeline

2019 Handbook Revision Schedule

		2015			2016			2017			2018			2019		
		Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	
Review	Current HB published (June 1)		Jun 1													
	TC selects HB subcom, chair															
	Review current HB for changes															
Revise	Outline revisions															
	Revise chapter(s)															
Approve	Revised chap. to TC for review															
	TC approves chapter															
	Chapter to HB Com liaison															
Edit & Produce	HQ sends proof to TC contact															
	HB sent to printer															
	HB mailed															

8. Action items for next meeting

9. Adjourn

Motion was made to approve the minutes and seconded. Approved by unanimous voice vote 8-0-0 (chair not voting).

Program Sub-Committee – Chair: Robyn Ellis

The following are minutes submitted from the Program Sub-Committee:

1. Call to order
2. Roll call
3. Approval of the Orlando Agenda
APPROVED (unanimously)
4. Approval of Atlanta Minutes
APPROVED (unanimously)

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5. Announcements

NONE

6. Orlando Program: TC 7.3

- 2 SEMINARS SPONSORED (SEMINAR 12 & 62) AND 1 SEMINAR CO-SPONSORED (SEMINAR 35)
- SEMINAR 12 WAS HELD ON SUNDAY AT 11 A.M., WAS WELL RECEIVED, WITH A GOOD CROWD >100, SPEAKERS DID AN EXCELLENT JOB, THANKS TO MINA AGARABI AS SEMINAR CHAIR. TOPIC & SPEAKERS DESCRIBED AS FOLLOWS:

7. Upcoming conferences, tracks and due dates: St. Louis & Las Vegas

ST. LOUIS: June 25 - June 29, 2016 / St. Louis, MO, USA

Seminar, Forum and Workshop Proposals due **February 8, 2016**

•Track 1: Advances in Refrigeration Systems and Alternative Refrigerant

Track Chair: Frank Schambach

Email: frankschambach@mindspring.com

This track seeks papers and programs that explore the wide range of refrigeration systems under development with special emphasis on the use of alternative refrigerants in vapor compression machines to address environmental concerns.

•Track 2: Research Summit

Track Chair: Jeffrey Spitler

Email: spitler@okstate.edu

The fourth annual Research Summit seeks papers that report results on any aspect of ASHRAE-related research including heating, cooling, ventilation, other energy uses in the engineered environment and associated environmental aspects.

•Track 3: Fundamentals and Applications

Track Chair: David E. Claridge

Email: dclaridge@tamu.edu

Fundamental information and applications of fundamentals related to all aspects of HVAC&R are welcome. This can range from psychrometric properties and processes to combustion, controls, HVAC system and envelope fundamentals and beyond.

•Track 4: HVAC Systems and Equipment

Track Chair: Alan Neely

Email: alan_neely@pghcorning.com

This track will include presentations on best practices to implement traditional, non-traditional, and hybrid approaches to achieve successful HVAC&R systems design. Objectives include high performance systems and equipment, LEED certified designs and sustainable buildings.

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- Track 5: Smart Building Systems/Remote Monitoring and Diagnostics

Track Chair: Samir Traboulsi

Email: traboulsi.samir@gmail.com

Smart buildings address HVAC&R equipment operation (chiller sequencing, soft start), integration into complete systems and can potentially interface with multiple building complexes and micro grid operation. This track includes papers on advanced communication protocols, system integration, BMS tools, data management and analysis.

- Track 6: Indoor Environment: Health, Comfort, Productivity

Track Chair: Dennis Alejandro

Email: denzjac@yahoo.com

Buildings and other enclosed spaces are increasingly required to provide safe, healthy environments in an energy efficient manner. Papers in this track will review the balance between environmental health and energy efficiency in buildings and help define future education, policy and research directions.

- Track 7: Professional Skills Beyond Engineering

Track Chair: Rachel Romero

Email: rachel.romero@nrel.gov

This track seeks to ensure professional skills are being developed and maintained beyond engineering essentials. Emphasis will be placed on meeting the professional development and business needs of today and converting them into the building blocks of tomorrow's success.

- Track 8: Renewable Energy Systems and Net Zero Buildings

Track Chair: Kevin Gallen

Email: kevin@gallenengineering.com

Wind, hydroelectric and solar are just a few of the alternative and/or renewable energy sources that are being used in HVAC design as we strive for Net-zero and high efficiency buildings. This track will address recent advances in alternative energy systems and equipment and new design strategies for achieving Net-zero buildings.

Conference Program Chair: Tom Kuehn

Email: kuehn001@umn.edu

LAS VEGAS: January 28 - February 1, 2017 / Las Vegas, NV, USA

- Track 1: Fundamentals and Applications

Track Chair: Chuck Curlin

Email: ccurlin@shultzeg.com

Engineering fundamentals are the foundation to understanding modeling, design, construction and operation of HVAC&R applications. This track provides opportunities for papers and presentations on theories, models, designs and shared experiences for both theoretical and applied concepts.

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•Track 2: HVAC&R Systems and Equipment

Track Chair: Michael Collarin

Email: Michael.Collarin@parsons.com

Selection of equipment and design of systems is critical for effective HVAC&R operation, and for achieving building operators' goals. The papers and programs in this track will assist designers and building operators in the use of traditional, non-traditional and hybrid equipment and systems; with an emphasis on high performance, sustainable and LEED-certified buildings.

•Track 3: Water-Energy Nexus

Track Chair: Gary C. Debes

Email: gcdebes@verizon.net

The interdependencies between our water and energy systems are clear and are becoming more prominent as development requires the use of more resources while over-use and climate change make some resources scarcer. On the macro level, water is used in all phases of energy production and electricity generation (including renewables); and energy is required to extract, convey and deliver water, and to treat wastewaters prior to their return to the environment. On the micro level, the water-energy nexus is a major consideration for the HVAC&R community in determining equipment and system selection and design as well as building operation. This track will present papers and programs highlighting recent research on this issue as well as technologies and designs intended to reduce the gap between energy and water efficiency.

•Track 4: Commercial and Industrial IAQ

Track Chair: Kevin Marple

Email: kmarple@benzco.com

Indoor Air Quality is a vital consideration in the built environment. As people spend increasingly more time in industrial and commercial facilities, IAQ is closely linked to occupant comfort, satisfaction, productivity and health. This track will offer papers and programs to inform building owners and operators on the value of improving IAQ.

•Track 5: Mission Critical Design and Operation

Track Chair: Carrie Anne Crawford

Email: carriecrawford@eeace.com

As societies become more dependent on mission critical facilities, the design and operation of these facilities has undergone rapid change. This track will present papers and programs which will highlight advances in technologies, controls, design and operation of mission critical facilities to meet their increasing loads while also minimizing their impact on energy/water usage.

•Track 6: Effects of Climate Change on HVAC&R

Track Chair: Rocky Alazazi

Email: mralazazi@yahoo.com

Climate change will have an increasing effect on the design and operation of the built environment. How does the HVAC&R community design for buildings today that are intended to be highly functional and efficient well into a future where today's standards, codes and practices may not be sufficient to meet tomorrow's climatic conditions? This track seeks papers and programs that will inform the selection of strategies, designs and approaches that will increase building resilience and facilitate climate adaptation.

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- Track 7: Energy Efficient Industrial Buildings

Track Chair: Corey Metzger

Email: corey.metzger@resourcece.com

Industrial facilities often have different HVAC&R requirements than do commercial and institutional facilities. Oftentimes these are a result of the processes that occur within industrial facilities as well as the life safety issues these processes create. This track will present papers and programs that will inform how energy efficiency can be achieved without compromising life safety considerations.

- Track 8: Building Operation and Performance

Track Chair: Cynthia Moreno

Email: cindym@tmmechanical.com

Modeling has become an essential factor in the design of all aspects of many buildings. Often the operational results of the building do not match the modeled outcome that the owner/operator expected. This can lead to much "finger pointing" or worse. This track will present papers and programs to update modelers, designers, contractors and owners/operators on how to better match building performance with modeled expectations.

Conference Program Chair: Leon Shapiro

Email: Leon Shapiro

8. New Business

See Program meeting minutes for full Program Planning and Idea Log

9. New Business

COVERED ABOVE IN IDEA LOG

10. Adjourn

APPROVED (unanimously)

Motion was made to approve the Program sub-committee report and seconded. Approved by unanimous voice vote (chair not voting) 8-0-0.

Standards Sub-Committee – Chair: Richard Danks

1. Meeting called to order
2. Introductions
3. Status update of responsible documents
 - a. Standard 180 – SPC met Friday June 26
 - Updates given from the equipment list subcommittees. Latest drafts proposed separating "inspection" from "task." A motion was made, seconded and approved to add a third column in the tables. Verbiage describing mandatory or recommendation for the task/corrective action is a pending resolution.
 - Draft tables have converged on standard terminology for the equipment tables

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- Discussion continued on Section 5. Issues raised included how to assess compliance and what material in the tables should be normative and non-normative.
 - Introductory paragraph was edited in real time. Motion to revise this text was made, seconded and approved.
 - R. Danks to draft revised text for TC approval
 - T. Paxton will establish a web site for committee members to exchange suggestions and updates.
 - User manual subcommittee discussed. Committee is established. Purpose of subcommittee discussed. Also development process discussed from RTAR to RFP through PMS. SPC is independent of TC 7.3
 - Suggestions for additional separate tables include: chilled beams, heat wheels, ground source heat pumps.
- b. Guideline 32 – C. Dorgan advised Standards Committee approval of this PC is still pending.
 - c. Guideline 4 – Draft is complete work is focused on editing. Chairman Warfield expects the work to take another 12 months.
4. Rob Falke presented a proposal for development of a new standard for a method of field testing performance of air handling units.
- a. This generated considerable discussion on scope and submittal process.
 - b. With Mr. Falke's approval, submittal of the proposal will be turned over to TC 7.3.
 - c. With a completed proposal available, a motion was made, seconded, and approved to turn over the proposal to TC 7.3 for further action.
5. No update on MTG (Multitask Group)
6. Mr. Trueman presented an update on Standard 100. Both 180 and 100 have equipment lists that have differences. There is a need to align the two lists.
7. Time yielded to other subcommittees.

Rob Falke presented his proposal for the new standard mentioned above to the full committee. A proposed standard will be posted to Basecamp, with all TC members invited to review and provide comments on and proposed revisions to the document online. Comments should adhere to the ASHRAE Code of Ethics and strictly be of a technical nature. The comment period will be from February 1 to February 29. Afterwards, the TC voting members will convene for a closed session meeting and make a decision regarding the proposed standard. Details will be provided in an e-mail sent from the Basecamp discussion thread.

Motion was made to approve E&T sub-committee report and seconded. Approved by unanimous voice vote 8-0-0 (chair not voting).

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Education & Training Sub-Committee – Chair: Mina Agarabi

The following are minutes submitted from the Education & Training Sub-Committee:

1. Discuss FAQs for O&M
 - a. Mina has made comments and requested others to provide feedback
 - b. Mina emailed the FAQs to Michael Brambley and posted to BaseCamp
2. Discuss Education Committee Scope and Purpose
 - a. Mina suggested reconnecting with TC members to ensure scope and purpose still is appropriate
3. Action items for next meeting
 - a. Schedule a virtual meeting
 - b. Attract more members to the group
 - c. Setup goals for the year
4. Further discuss the idea to create a webpage similar to the Controls page on the ASHRAE bookstore.
5. Adjourn

Additional discussion about ideas to really determine the scope of the committee were discussed.

Motion was made to approve E&T sub-committee report and seconded. Approved by unanimous voice vote 8-0-0 (chair not voting).

Liaison Reports

TC7.5 – Working with TC7.3 to revise chapter to TC7.5 handbook chapter.

Old Business

Website has been updated. Looking for any ideas to improve it.

New Business

- As a way to better share comments and collaborate about TC documents, we will use Basecamp, an ASHRAE-endorsed platform used to share ideas, gather feedback, and track progress. E-mail will still be used, but this forum will allow us to store documents, discussions, task lists, and more in a secure manner. If you have any questions on using Basecamp, please view the Quick Videos on Basecamp. If those do not help, please feel free to e-mail me.

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In addition to the above action item, I am asking TC members to consider leading or taking part in the following new subcommittees.

- **Electronic Communications:** Subcommittee will oversee the website, which will still be maintained by the TC Webmaster (assigned to the subcommittee), Basecamp account usage, and remote meeting participation (RMP) equipment reservation, set-up, and breakdown at TC main committee and subcommittee meetings at the Annual and Winter Conferences.
- **Membership and YEA:** Subcommittee will be charged with recruiting new members for TC 7.3, with a specific focus on YEAs, promoting subcommittee involvement in the TC, and creating a mentorship program for Corresponding Members and Provisional Corresponding Members to be mentored by Voting Members and seasoned Corresponding Members.
- **Translation:** Subcommittee will be charged with working on translating standards and guidelines with TC 7.3 as the cognizant committee from English to other languages and working with the Publications Committee on publishing these translated standards. In time, the subcommittee's scope will expand to translate material produced by the TC 7.3 Education and Training Subcommittee from English to other languages and vice versa.
- **Honors and Awards:** Committee will be charged with evaluating TC member involvement and nominate members for Society awards.

Finally, it is encouraged that all TC members to take part in subcommittee work. Our Standards, Handbook, Program, and Research Subcommittees are always looking for new ideas and contributors to help those ideas become a reality. Your input, large or small, contributes to the TC's scope and advances the Society's mission.

Next Meeting

The St. Louis, Missouri meeting will be Tuesday June 28, 2015, from 1:00 PM -3:30PM. Subcommittee meetings will be held on Monday afternoon June 27, 2015 (rooms to be announced).

Adjournment

A Motion was made was seconded to adjourn the meeting. Approved 8-0. The chair adjourned the meeting.