

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: January 24, 2012

LOCATION: Chicago, IL

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

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Shailen Verma (v)	2008-12	Keith Dempsey		Ashok Kadakia	
Thursten Simonsen (v)	2009-13	Jared Higgins		Manoj Khati	
Angela Lewis (v)	2011-14	Dennis Alejandro		Michael King	
Tom Cappellin (v)	2011-15	Joseph Anderson		Sung Brian Kong	
Davidge Warfield (v)	2009-13	Linda Austin		Anthony Lolos	
Rick Dames (v)	2008-12	Robert Bates		Zoltan Magyar	
Richard Danks (v)	2009-13	Christopher Becker		Michael Mamayek	
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Sonya Pouncy (v)	2011-15	Steven Blanc		William McCartney	
Chuck Dale-Derks	2006-11	Michael Bobker		Amanda McKew	
Kevin Fallin		Kirk Bond		Gene Meyer	
Mike Gallagher		Laurence Brink		James Miller	
Richard Rooley		James Carelock		Ross Montgomery	
Bill Ryan		James Carlson		Matthew Mullen	
Cedric Trueman		Patrick Carpenter		Brian O'Donnell	
Wayne Webster		Dominador Castro		Thomas Reinarts	
Forrest Yount		Charles Dorgan		John Rieke	
Additional Attendees		Joseph Driscoll		Jeffrey Rutt	
David Cantrill		Robyn Ellis		Adolph Rydzewski	
Donald Swanson		Ecton English		Scott Sepsy	
Michelle Swanson		James Gartner		George Sestak	

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Call to Order/Scope/Introductions

Michael Brambley called the meeting to order at 1:03 PM. The scope of the committee was read. Attendees in the room introduced themselves. An attendance sheet was circulated.

Voting Member Roll Call

Thursten Simonsen took roll call of the voting members. At the time of roll call, six (6) voting members were present of the eleven (11). A quorum was established.

Approval of the Agenda

The agenda for the meeting was presented for approval. There was one request for revision to the agenda, to clarify approval of the past meeting minutes from Montreal, and not Las Vegas.

Society Liaison and Guest Presentations

None

Approval of Montreal, Canada Meeting Minutes

The draft meeting minutes from Montreal, Canada were reviewed. Sonya Pouncy made a motion to approve the minutes, seconded by Angela Lewis. Approved 6-0-0 (chair not voting).

ASHRAE Administrative Matters/Correspondence/Announcements

1. TC Chair Breakfast Sunday morning attended by Shailen Verma:
 - Be aware of ASHRAE rebranding. TC websites should reflect the new logo and tagline by March 1, 2012.
 - Roster updates are required by today (Tuesday Jan 24, 2012), to go into effect July 1, 2012.
 - The AEDG steering committee is looking for volunteers from the technical and standard committees to provide input in defining the need and format for a document or source library for best practices in O&M. The committee has put together a survey that will be emailed for distribution to the committee. They would like as many surveys as possible returned by Feb. 15, 2012.
 - Reminded that TC members cannot speak for the TC before other bodies (SSPC's, standing committees, outside groups, etc.) unless they are the official liaison for the TC to that group and any TC position that they present on an issue is supported by a prior TC vote. Members of the committee serve as individuals and not as TC liaisons unless so designated.
 - More and more TCs are taking advantage of a Society service that allows TCs to hold subcommittee meetings by phone and/or web. Please pass conference call/web meeting/webinar requests on to the Manager of Research and Technical Services, Mike Vaughn.

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2. Upcoming Events – Shailen Verma reviewed upcoming events and meetings. Additional details may be found on the ASHRAE website under Events.
3. Upcoming ASHRAE Winter/Annual Conferences dates:
 - San Antonio, TX Jun 23-27, 2012
 - Dallas, TX Jan 26-30, 2013
 - Denver, CO Jun 22-26, 2013
 - New York, NY Jan 18-22, 2014
 - Seattle, WA Jun 28 – Jul 2, 2014

Sub-Committee Reports

Research Sub-Committee – Chair: Tom Cappellin

Attended by Tom Cappellin, Davidge Warfield, Shailen Verma, Sonya Pouncy, Mike Brambley, Thursten Simonsen, Cedric Trueman, Angela Lewis, Michael Khaw, Warren Lipson, Doug Hartley, Lisa Rosenow, Ted Wilinski, John Rieke, Richard Danks, Lawrence Donaldson, Patrick Murphy, Mark Lowry, Forrest Yount, Matt Mullen, Rob Hitchcock, Chris Draper, John Simpson, Kathy Draper, Eric Nelson

1. Angela Lewis is proceeding with preparation of a Work Statement based on her approved RTAR No. 1609 “Defining the Capabilities, Needs and Current Limitations of Building Information Modeling (BIM) in Operations and Maintenance for HVAC&R.”
2. Angela Lewis expressed the need to add an Education Subcommittee to TC 7.3. The ASHRAE Learning Institute (ALI) is considering a short course developed around O&M practices and having an Education Subcommittee in TC 7.3 would enable an exchange of O&M information beneficial to both parties.
3. TC 7.3 needs to establish a liaison presence with the following entities:
 - TC 7.8 “Owning and Operating Costs”
 - SGPC 20 “Documenting HVAC&R Work Processes and Data Exchange Requirements”
 - GPC 32 “Sustainable, High Performance Operations and Maintenance”
 - SSPC 180 “Standard Practices for Inspection and Maintenance of HVAC systems”
 - NEBB
4. TC 7.3 should consider developing an RTAR dealing with identifying O&M training gaps.
5. Research Subcommittee Chairs Breakfast Highlighted the following topics:
 - Drury Crawley was presented with the “Service to ASHRAE Research” award.
 - The GPIC (Greater Philadelphia Innovation Cluster for Energy Efficient Buildings” has been established by USDOE to focus on full-spectrum retrofit of average size commercial, multi-unit residential, and mixed (commercial and multi-unit residential) buildings. GPIC is provided with support by Penn State University. The location for the GPIC is the 1,200 acre Naval Shipyard in Philadelphia which includes 270 existing and new buildings that can be utilized as test beds, and an independent unregulated micro-grid. GPIC’s goals are to transform the delivery process of the building retrofit industry in the Greater Philadelphia Region from a serial

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- fragmentation to an integrated product design and delivery method that optimizes whole building system efficiency and performance. This requires:
- i. Improving system design tools.
 - ii. Integrated building component and subsystem technologies.
 - iii. Supportive public policies and market and behavioral incentives.
 - iv. Customer value propositions focused on systems performance benefits.
 - v. Business models that quantify profits realized by the integrated system approach.
 - vi. A skilled workforce to insure optimal performance of integrated subsystems.
- The GPIC has established an “Opportunity Research Fund” (ORF) that includes the following funds:
 - i. About \$10 million over five years allocated for ORF.
 - ii. Grants of between \$100,000 and \$250,000 to support research, development, demonstration, and deployment of technologies, policies, business models, and training programs that advance GPIC goals.
 - iii. Primary proposal evaluation criteria: Degree to which ORF funding is critical in advancing an opportunity to wide scale deployment.
 - iv. Teams must include at least one of the 24 GPIC member organizations and must include at least one non-member organization.
 - v. Seven projects awarded in 2011 totaling \$1.3 million of DOE funding.
 - vi. Two ORF RFPs will be issued in spring of 2012 and summer of 2012.
 - vii. Michael Vaughn will be notified when each RFP issues and will inform TC Research Chairs.
 - viii. See www.gpichub.org or meet Rich Sweetser who is the GPIC consultant in RAC.
 - Grants-In-Aid:
 - i. A letter announcing the availability of ASHRAE Grants-in-Aid for Graduate students was sent to over 300 colleges in October, 2011.
 - ii. 65 candidates applied for a grant and will be evaluated by the Research Planning Subcommittee at the Winter Meeting. There were 66 applicants during the previous year.
 - New Investigator Award:
 - i. Five new researchers have been nominated for the award.
 - ii. The Research Planning Subcommittee will review the applications at the Winter Meeting for the Society year 2011-2012.
 - Current Projects:
 - i. The 2011-2012 fiscal years began with 71 projects under contract.
 - ii. 16 projects have been completed.
 - iii. Of the 71 active projects under contract, 12 are currently being evaluated to determine if they can be closed.
 - Research Funding Status:
 - i. 10 Tentative Research Projects were released for bid in fall, 2011.
 - ii. 5 Work Statements approved “on-hold” or “pending” are ready for bid or rebid in spring, 2012 provide sufficient funding is available.

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- Unsolicited Research Proposals: 5 URP's will be discussed by the reviewing TC/TG/SSPCs and will be considered by the RAC and Tech. Council in Chicago if recommended for funding by TC/TG/SSPCs.
 - i. RAC received an unusual number (5) of URP's.
 - ii. Some PI's and TC's may consider this as shortcut.
 - iii. However, this URP route is considered only acceptable in exceptional cases.
 - iv. RAC may clarify in more detail what may be considered as exceptional.
- Research Implementation Plan:
 - i. The Society Research Implementation plan currently consists of 53 research topics in various stages of development prior to contract award (23 RTARs; 14WS's; and 16 TRPs).
 - ii. There were 64 topics at this time in the previous year.
- TC's are encouraged to produce more Projects:
 - i. The current number of RTARs (6) and WS (2) for RAC to evaluate is quite low which may cause a shortage of promising research projects in the near future.
 - ii. It takes between 1-2 years before a Work Statement (WS) is accepted, and a Tentative Research Proposal (TRP) is ready for bidding.
 - iii. If ASHRAE does not receive enough proposals during 2012/2013 it will run out of projects.
- New RTAR Coversheet:
 - i. A new coversheet has been issued and is available from ASHRAE's website. It has an improved layout and easy to fill in the word template.

Davidge Warfield made a motion to approve the research sub-committee report, seconded by Richard Dames. Angela Lewis made a comment that at the end of the Research Sub-Committee meeting, there was an extensive discussion regarding education, and the possibility of creating an Education sub-committee. The committee determined to address this topic under New Business. Research Sub-Committee report Approved by unanimous voice vote (chair not voting).

Handbook Sub-Committee – Chair: Angela Lewis

Attended by Tom Cappellin, Davidge Warfield, Shailen Verma, Sonya Pouncy, Mike Brambley, Thursten Simonsen, Angela Lewis, Michael Khaw, Warren Lipson, Doug Hartley, Lisa Rosenow, Ted Wilinski, Richard Danks, Lawrence Donaldson, Patrick Murphy, Mark Lowry, Chris Draper, Kathy Draper, Eric Nelson

The 2011 version of Chapter 39: Operations and Maintenance Management, within the Applications Handbook was published spring 2011. Angela gave a brief overview of the activities that will take place over the next few years to revise the chapter for the next publication in spring 2015. Angela Lewis will serve as lead author.

There was a discussion about the handbook on-line content, ASHRAE Handbook Online +, and the desire to have additional information submitted that would be posted in the handbook on-line, specifically interactive material.

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There was also discussion on having the handbook chapter reviewed by external resources within and outside of ASHRAE, such as other professional organizations. Angela will pursue this.

Angela asked for volunteers for the handbook committee to kick-off the new revision period, which she recorded and will reach out to following the meeting.

Michael Khaw made a motion to approve the handbook sub-committee report, seconded by Thursten Simonsen. Approved by unanimous voice vote (chair not voting).

Program Sub-Committee – Chair: Angela Lewis

Attended by Shailen Verma, Wayne Webster, Angela Lewis, Michael Khaw, Davidge Warfield, Thursten Simonsen, Michael Brambley, Richard Rooley, Chris Draper, Eric Nelson, Kathy Draper

Effective 2013 in Dallas: Members of ASHRAE Board, speakers, and CEC members will transition from free registration to paying a fee discounted by about 75 percent of the conference registration fee.

Chicago, IL: January 21-25, 2012

The following programs were sponsored by the committee:

- 1) Seminar 5 “What Is the Right Degree of Automation in Building Operations: A Debate and Discussion”
- 2) Seminar 7 “Has Your TRAINing Left the Station?”
- 3) Seminar 13 “Sustainability in Commercial Buildings: Integration Measures for Bridging the Gaps in Performance from Design to Operations”
- 4) Seminar 27 “Approaching Net-Zero and Maintaining Your Course: O&M Tools to Maintain Building Performance”
- 5) Three (3) Conference Presentations related to O&M as well

San Antonio, TX: June 23-27, 2012

Seminar/Forum/TPS/CPS proposals are due through the on-line submission system on Feb 13, 2012

Proposed Programs:

- 1) Seminar “If Failure is Random, Why Does it Come Quicker When We Cut the Maintenance Budget” (co-sponsor with TC 7.8)
 - a. Chair – Chuck Dale-Derks
 - b. Presenter – Matt Mullen “Real World Cell Tower Maintenance”
 - c. Presenter – Keith Reihl “Maintenance Mayhem”
- 2) Seminar “Tenant Feedback Tools, Getting Occupant Feedback and Engagement”

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- a. Chair – Chris Draper
- 3) Technical Paper (Angela previously submitted per the deadline)
 - a. Presenter – Angela Lewis “A Framework for Improving Building Operating Decisions”

Dallas, TX: January 26-30, 2013

Proposed Programs:

- 1) Seminar “Expected Churn and Impact on Energy Consumption” (working title)
 - a. Chair – Shailen Verma

Thursten Simonsen made a motion to approve the program sub-committee report, seconded by Michael Khaw. Approved by unanimous voice vote (chair not voting).

Standards Sub-Committee – Chair: Bob Baker

Attended by Shailen Verma, Wayne Webster, Angela Lewis, Michael Khaw, Davidge Warfield, Thursten Simonsen, Michael Brambley, Richard Rooley, Chris Draper, Eric Nelson, Kathy Draper, Cedric Trueman, Shawn Masterson, Bob Baker, Sonya Pouncy

SSPC 180: The committee voted to go on periodic maintenance effective July 1, 2012. With approval through the Standards committee process, the committee expects to be disbanded following the June meeting in San Antonio.

Western HVAC Performance Alliance (performancealliance.org): There are about 70 organizations that make up the alliance, created by the California utilities to implement the long-range energy plan for California. They have determined per the plan to base maintenance on Standard 180.

Michael Gallagher provided a more detailed background and history of the use of Standard 180 in the California rebate programs, and what is happening today:

- So Cal Edison has initiated a significant commercial rebate program based on Std 180 plus a few energy efficiency measures. Has budgeted >\$10M over 3 years.
- Pacific Gas & Electric is rolling out their own version of a similar program, based on Std 180.
- Initial program is based on rooftop units only. Split systems are scheduled to be added this year.
- Std 180 was critical in the germination of the program, because SCE needed an expert, 3rd party definition of an acceptable maintenance program.
- With the major CA investor owned utilities (IOU's) doing this (San Diego Gas & Electric is expected to follow along), it seems likely to spread across the country.
- Section 4 of the standard is considered the “meat” of the program.

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Guideline 4: Has been reaffirmed, and a notice provided to Standards indicating that Guideline 4 will be revisited once Guideline 1.4P is published, and updated or otherwise as needed.

Richard Dames made a motion to approve the standards sub-committee report, seconded by Sonya Pouncy. Approved by unanimous voice vote (chair not voting).

Liaison Reports

ALI Activities – Liaison: Davidge Warfield

Angela Lewis reported for Davidge Warfield. Angela provided an updated on the discussion from previous meetings around the idea of using the ASHRAE Headquarters as a learning lab. Angela received positive feedback, and has been asked to provide a proposal including learning objectives, content, potential audience, and other aspects of the training. Angela asked for volunteers to provide additional information and potentially assist with this effort.

Richard Danks made a motion to approve the standards sub-committee report, seconded by Michael Khaw. Approved by unanimous voice vote (chair not voting).

Old Business

Website: Chuck Dale-Derks has edited the website documents, and has submitted those to be updated. He has been working with a contact at ASHRAE to get the updates on the web. The banner will need to be updated with the new logo, which is not yet available.

Learning Course: The new self-learning course on Operations and Maintenance was recently published, and is available in the ASHRAE Bookstore. It appears to be selling well.

New Business

Discussed the need for a TC7.3 Education Sub-Committee. This is in response to Angela Lewis' suggestion (stemming from an ALI discussion during previous Research Sub-Committee meeting) relating to a short course that would be developed around O&M practices.

1. Angela Lewis introduced the topic, and posed the question for discussion whether an Education Sub-Committee should be created for TC 7.3.
2. Question was posed to the output/product of this subcommittee; a discussion ensued that this would be a “topical” sub-committee, with the ability to influence and provide input into the other sub-committees (research RTAR's, standard and guidelines ideas, or training products), and would take sometimes lengthy discussions out of those sub-committees that may deter them from their main priorities.
3. There was a discussion about ALI's role, and how the work of this sub-committee could complement and work with ALI.
4. Angela does have a proposal from ALI, and asked for volunteers willing to participate and respond to this proposal directly.

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Angela Lewis made a motion to form a working group to evaluate the need for an education and training sub-committee in TC 7.3, seconded by Richard Danks.

Discussion ensued, and it was determined that the working group would need to determine the title, purpose and scope of this sub-committee as the initial output in determining if a sub-committee is needed. A vote was taken, and the motion approved 7-0-0 (chair not voting). The motion carried unanimously.

Michael Brambley appointed Angela Lewis and Davidge Warfield to be the co-chairs of this working group, and asked for volunteers to participate in the working group.

Next Meeting

The San Antonio, TX meeting will be Tuesday June 26, 2012, from 1:00 PM -3:30PM. Sub-committee meetings will be held on Monday afternoon June 25, 2012 (rooms to be announced).

Adjournment

The chair adjourned the meeting at **3:19 PM**.