

**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 31, 2017**

LOCATION: **Las Vegas, NV**

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

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		Joe Marchese (cm)		Stephen Wren (pcm)	

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Call to Order/Scope/Introductions

Chair John Constantinide called the meeting to order at 1:04 PM. The scope of the committee was read. Attendees in the room introduced themselves. An attendance sheet was circulated. The ASHRAE Code of Ethics was read.

Voting Member Roll Call

Secretary Sonya Pouncy took roll call of the voting members. At the time of roll call, seven (7) of the ten (10) voting members were present. A quorum was established. Two (2) additional voting members arrived after the roll call.

Approval of the Agenda

The agenda for the meeting was presented. Motion to accept the agenda was made by Pouncy and seconded by Gallagher. Approved by unanimous voice vote 6-0-0-0 (CNV).

Approval of Atlanta Meeting Minutes

The draft meeting minutes from St. Louis were reviewed. Motion to approve the minutes was made by Sibilski and seconded by Danks. Approved by unanimous voice vote 6-0-0-0 (CNV).

Announcements

1. Member R. Danks: Attendees were reminded that Robert's Rules of Order would govern the conversation.
2. Guest David Answorth: A total cost of ownership research project is planned to begin near then end of 2017 under APPA Standard 1000. For additional information contact David Answorth of APPA and Liaison to ISO.
3. Member H. L.Hutson: ASHRAE Research is considering two RTARS investigating occupancy patterns and integrating building data in an effort to move beyond EUI's based on square footage only and to additionally consider energy consumption relative to primary uses of the building.
4. Subcommittee chairs are encouraged to use teleconference meeting in the future.

Sub-Committee Reports

Research Sub-Committee – Chair: Michael Bobker

The following are minutes submitted from the Research Sub-Committee meeting held in person on Monday, Jan 30, 2017:

1. Attending: Michael Bobker, Michael Brambley, Robyn Ellis, John Frugard, Robert Hitchcock, Sonya Pouncy, Cedric Trueman, Davidge Warfield, Wayne Webster, Jim Wilson

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2. Status Report

2.1 RP 1609 (Defining the Capabilities, Needs and Current Limitations of Building Information Modeling (BIM) in Operations and Maintenance for HVAC&R). Project complete. Disposition of Research Project Results (form) submission to MORTS to be completed. Technical paper published and poster presented; material also included in Seminar 40 at Las Vegas meeting.

PI Rob Hitchcock's follow-on RTAR under TC 1.5 sponsorship has been approved and the Work Statement for RP 18071 is presently being revised for re-submission. Co-sponsorship from TC 7.3 is requested. 7.3 co-sponsorship seems appropriate since 7.3 was the lead sponsor of the original work and the proposed work outcomes relate specifically to O&M documentation and use. Co-sponsorship will enable 7.3 input into the WS and help assure that the output products are appropriate and usable by the O&M community. By unanimous vote of the sub-committee meeting, **THE RESEARCH SUB-COMMITTEE MOVES THAT CO-SPONSORSHIP BE APPROVED**, contingent upon review and acceptance of the revised Work Statement.

2.2 RP 1650 (Training Requirements for Sustainable High-Performance Building Operation) – Award made. PI: Dr. Jaya Mukhopadhyay, Dept of Architecture, Montana State University. PMS convened: Davidge Warfield, chair, Alex Heckman, John Fugard, Michael Bobker and participation from co-sponsoring TC 2.8 (Kevin Brown) and 7.6 (Hyojin Kim). Work initiated, Project Plan under review – PMS meeting Tues 1/31 8:00 am.

2.3 Co-sponsored RTAR 1781 “Methods to Evaluate AFDD Strategies for Air Handling Unit Systems” was approved. Work Statement is being drafted Dr. Jin Wen (TC 7.5).

RTAR Development: no new RTARs have been drafted.

3. Discussion of Research Ideas.

- Mina Agarabi presented progress on a possible project regarding “measurement of comfort conditions at ASHRAE conferences.” Dave Shipley, Research Chair of TC 7.9 attended to express likely support of 7.9 for such a project. Opportunity for “active learning” cited. Ms. Agarabi has also found interest from SSPC 55. Potential barriers discussed. Ms. Agarabi will continue to explore development of an RTAR.

Motion to approve the sub-committee report was made by Sibilski and seconded by Warfield. Motion was approved by unanimous voice vote 7-0-0-0 (CNV).

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6. A draft of the revised chapter will be provided for discussion at the next committee meeting.

Motion to approve the sub-committee report was made by Ellis and seconded by Sibilski. Motion was approved by unanimous voice vote 8-0-0-0 (CNV).

Education & Training Sub-Committee – Chair: Mina Agarabi

The following are minutes submitted from the Education and Training Sub-Committee meeting held via teleconference on Jan. 6, 2017:

1. Call to order 3:00pm
2. Roll call
3. Approval of the Las Vegas Agenda
4. Approval of St Louis Minutes
5. Announcements – Writing Workshop Sunday, January 29, 2017, 3:00PM- 6:00PM
6. Increase participation in the TC 7.3 subcommittees
 - Educate ASHRAE members on the importance of O&M
 - Promote TC 7.3 contributions to date
7. Strengthen connections with other organizations
8. Changes/Updates to FAQ 56 & 57
Feedback from the subcommittee:
 - Need to tighten it up, perhaps have a summary/intro
 - Have it direct the audience to the handbook chapter
 - Any interest to submit more FAQ questions to educate people on O&M?
9. Creation of O&M page on Bookstore. See Controls sample <https://www.ashrae.org/resources--publications/bookstore/building-controls#pubs>
 - Wiki or a Blog with ASHRAEExchange need to research- John's suggestion
 - Connect with ALI and professional development to see about to start O&M page
9. New Business
10. Adjourn at 6:00pm

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Time slot for subcommittee meeting on Monday Jan 30, 2017 was devoted to a seminar that was well attended.

Motion to approve the sub-committee report was made by Pouncy and seconded by Ellis. Motion was approved by unanimous voice vote 8-0-0-0 (CNV).

Program Sub-Committee – Chair: Robyn Ellis

The following are minutes submitted from the Program Sub-Committee meeting held in person on Monday, Jan 30, 2017:

1. Introductions

2. Approval of the Las Vegas Agenda –*Approved.*

3. Las Vegas Program January 2017: TC 7.3

Sunday: 11:00 AM - 12:30 PM

Seminar 13

Yes, It Is Your Fault: How Faults Affect Your System's Performance and How to Model the Faults' Effects in Advance

Sponsor: 8.11 Unitary and Room Air Conditioners and Heat Pumps, 7.3 Operation and Maintenance Management, TC 7.5 Smart Building Systems

Sunday: 1:30 PM - 3:00 PM

Seminar 17

Energy Management: A Crucial Component of Operations and Maintenance

Sponsor: 7.3 Operation & Maintenance Management

Sunday: 3:00 PM - 6:00 PM

Seminar TC

A Better Writer is a Better Engineer: TC 7.3 O&M Management Perspective on Good Communication

Sponsor: 7.3 Operation and Maintenance Management

Sunday: 3:15 PM - 4:45 PM

Seminar 19

Walking the Walk: Delivering a Truly High Performance Building

Sponsor: 7.3 Operation and Maintenance Management, 7.9 Building Commissioning, 7.6 Building Energy Performance

Tuesday: 8:00 AM - 9:30 AM

Seminar 37

HVAC Maintenance: Using Field Test Data to Benchmark and Improve System Performance

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Sponsor: 7.3 Operation and Maintenance Management

Tuesday: 9:45 AM - 11:00 AM

Seminar 40

Addressing Information Incompatibilities in Building Performance Monitoring

Sponsor: 7.3 Operation and Maintenance Management, 1.5 Computer Applications

5. Upcoming 2017/2018 conferences, tracks and due dates: Long Beach, CA (Summer 2017) and Chicago (Winter 2018)

[followed by Houston (Summer 2018) & Atlanta (Winter 2019)]

6. Program Planning and Idea Log

See handout

7. New/revised Program ideas

Potential for Long Beach (or Chicago)

- a) ***Resubmission** with retitle: “**Commissioning Case Studies: Lessons learned in the cloud.**”

Touches on commissioning, turnover of construction to operation & maintenance, energy efficiency, use of technology, communication and information management. Possible speakers: Kris Kinney, Michael Bobker’s lab

ACTIONS: connect with Lee Riback from TC 7.9, connect with Michael, circle back with Kris

- b) Case studies on life cycle costs and energy consumption modelling, an owner’s perspective at UCF. Possible speakers: David Norvell, etc.
ACTION: follow-up with Dave Norvell.
- c) Importance of O&M planning as part of commissioning: case studies on cold water booster pumps. Possible speaker: Nick Arroyo.
ACTION: follow-up with Nick Arroyo.
- d) Possible topic from Terrence Rollins for Chicago –Federal specialty, controls (track 5?), co-sponsorship? The impact of New Refrigerants and Chiller Plant Design & Selection. Possible speakers: Terrence Rollins, John C. (skating rink design award from Plenary)
ACTION: follow-up with Terrence Rollins and John C.
- e) ***BEQ case studies.** Business case for sustainability and O&M budgets. ACTION: Follow-up with David Norvell, John C., Jim Wilson, Sonya P. (Michigan pilot), John Constantinide (Bogota Columbia & Argentina design submissions), check with Nate Boyd on BEQ
- f) Standard 180 education & awareness. ACTION: Follow-up with Rick Danks (standards & Chicago Midwest Alliance), Mike Bobker (national utilities training –Stan Price, Cynthia Putnam), Sonya P. (Michigan utilities rebate program). Target Summer 2018 or Winter 2019.
- g) Debate: resolved, the quality of maintenance has no impact on equipment energy efficiency, ACTION: Follow-up with Fellows to see if TAC wishes to hold the debate, connect with Thursten regarding MTG.

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Idea Log to be updated with notes from the January Las Vegas meeting.

8. Opportunities for Program through partnerships with other TC's

TC 7.9 Lee Riback

TC 1.12 Terry Moisture Management Guide

TC 7.5 Mike Bobker

TC 9.7 Dawen Lu

MTG O&MEE

9. New Business –N/A

10. Adjourn

Motion to approve the sub-committee report was made by Sibilski and seconded by Bobker. Motion was approved by unanimous voice vote 8-0-0-0 (CNV).

Standards Sub-Committee – Acting Chair: David Norvell

The following are minutes submitted from the Standards Sub-Committee meeting held in person on Monday, Jan 30, 2017:

1. To re-establish consensus, the committee is under re-organization.

Motion to approve the sub-committee report was made by Ellis and seconded by Sibilski. Motion was approved by unanimous voice vote 8-0-0-0 (CNV).

Liaison Reports

None

Old Business

None

New Business

1. Research subcommittee moved that work on 1609 continue and that we co-sponsor a work statement. Motion was approved by unanimous voice vote 8-0-0-0 (CNV).
2. The MBO of the Publications and Education Council's Functional Planning Subcommittee to "identify product needs and prepare implementation roadmap for O&M market focus" was discussed.
 - a. The MBO consists of 7 action items:
 - i. Develop an ASHRAE service (for a fee) to generate an O&M video for a specific project and keep it in the ASHRAE cloud. Assigned to Education & Training Subcommittee

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- ii. The training and management of the facility operating personnel (i.e. an O&M package that could be used by Chapters to share with building users, operators, and owners). i. Assigned to Education & Training Subcommittee
 - iii. Create practical guides and check lists for effective building operations geared toward operations staff. i. Assigned to Standards and Handbook Subcommittees i. John Constantinide, as a CTT RVC, can liaise between TC 7.3 and CTTC.
 - iv. We are starting to see ASHRAE standardized sequences in consulting engineers' specifications, but it is more the exception than the rule. One possible solution would be to educate consulting/specifying engineering community on our Handbook resources. i. Assigned to Education & Training Subcommittee. ii. Recommended collaboration with Handbook Subcommittee.
 - v. Expand the development and use of O&M Terminology by offering a filterable website database application of all terms and definitions tracked by TC 1.6. i. Assigned to Education & Training Subcommittee
 - vi. An app to generate a building specific O&M manual. i. Assigned to Education & Training Subcommittee
 - vii. Promote ideas involving big data usage and BIM. i. Assigned to Education & Training Subcommittee. 1. Richard Dames, Voting Member and Liaison of TC 7.3 for MTG.BIM, is asked to work with the Subcommittee
- b. Under consideration were the cost impact, whether appropriately placed with the TC, and what exactly is being asked of the TC.
- c. It was decided that:
- i. Any video should be generic, not project specific. We need to also consider liabilities and responsibilities. We also need to better clarify the mission/purpose.
 - ii. Any training should consider the requirements of the Federal Building Personnel Training Act
 - iii. Practical guides and checklists should be referred to the Handbook Subcommittee and should reference Standard 180.
- d. It was further decided that this conversation should be posted to Basecamp to elicit additional comments from the broader TC membership and that Members Constantinide and Rooley will identify the exact questions to which answers are wanted regarding the 7 items. The TC will then answer those questions.
3. Subcommittee Needs & Requests
- a. Education & Training-None
 - b. Handbook-Upgrade to Basecamp 3
 - c. Program-None
 - d. Standards-None
 - e. Research- Need to brainstorm and generate ideas that subcommittee members can develop
4. Closed Session Items & Votes
- a. None

Action Items

- 1. We need to ask for different scheduling of the TC meeting so as to not conflict with other Section 7 TC's. Assigned to Chair Constantinide who will send out a poll/survey to identify the best time to meet.

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2. We need to identify the exact questions to which answers are wanted regarding the 7 items of the PEC-FPS MBO. The TC will then answer those questions. Assigned to Members Constantinide and Rooley.

Next Meeting

The Long Beach, CA meeting will be June 24, 2017 – June 28, 2017. The Committee meeting will be Tuesday, June 27th from 1:00 PM -3:30PM. Sub-committee meetings will be held on Monday afternoon June 26th. (All rooms to be announced).

Adjournment

A Motion to adjourn the meeting was made by Ellis and seconded by Pouncy. Approved 8-0-0-0 CNV. The chair adjourned the meeting at 3:01 PM