



American Society of Heating, Refrigerating and Air-conditioning Engineers, Inc.
1791 Tullie Circle, N.E. - Atlanta, GA 30329 / 404-636-8400

TC/TG/TRG MINUTES COVER SHEET

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

TC/TG/TRG NO 3.6 DATE February 18, 2007

TC/TG/TRG TITLE Water Treatment

DATE OF MEETING January 30, 2007 LOCATION Dallas, TX

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Barry Fields	2004	Signhild Gehlin	2005	Jon J. Cohen
Paul Lindahl	2005	Dave Geary	2004	Kay Flamm
Mark Hodgson	2004	Clive Broadbent	2004	Wiley Wang
Bill Pearson	2006			Henry Becker
Pat Graef	2004			Chuck Sanderson
Dick Miller	2005			Anthony Florita (guest)
Tim Keane	2006			Frank Morrison
Bill McCoy	2004			Don Fenton
Al Spence	2003			Andrew Leduie
Michael Adams	2005			Leon Shapiro
Sarah Ferarri	2006			Mathew Moore
Charles Sanderson	2005			Sidney Parsons
Ron Wood	2006			
Michael Patton	2006			

DISTRIBUTION

<i>All Members of TC/TG/TRG plus the following:</i>	
TAC Section Head: Dave Geary	
TAC Chair: Eckhard Groll	
All Committee Liaisons As Shown On TC/TG/TRG Rosters:	
Manager Of Standards: Claire Ramspeck	
Manager Of Research & Technical Services: Mike Vaughn	



Draft
MEETING MINUTES

Technical Committee: TC3.6 - Water Treatment
January 30, 2007 – Dallas, TX

2/18/2007

Reply to: Bill Pearson
Southeastern Labs / AWT
Raleigh, NC 27612
Ph: 919-880-0829
Email: bpearson@nc.rr.com

ASHRAE TC3.6 Meeting Minutes: 30-Jan-07 / Dallas (1:00pm – 3:30pm, Tue.)

- I. Call to order** – by Chairman Paul Lindahl and determination of a quorum;
- II. Introductions** – of members and guests;
 - a. Chairman Lindahl recognized Sidney Parsons who provided a report as EHC Liaison to TC3.6 and a request that TC3.6 co-sponsor a seminar at the next ASHRAE meeting (Long Beach) presenting the key components and current state of SPC188 (the standards document for guideline 12 on Legionellosis).
 - b. Chairman Lindahl recognized a (guest) graduate student of the University of Nebraska who was on a class assignment and wanted to ask TC3.6 for any input they could provide regarding experience with chemical additives in closed hydronic loops for heating and cooling applications in commercial buildings. Several members volunteered contact information to the student and to help with providing the information requested.
- III. Minutes:** of the last meeting (27-Jun-06/Quebec City) were reviewed.
Motion was made to approve the Quebec City minutes; Motion was seconded and Passed 11-0-0.
- IV. Chairman's comments, actions and report on TC-Chairs meeting:**
 - a. Noted that ASHRAE has made a program policy change that now requires all program presentations (powerpoints) be provided/uploaded to ASHRAE a minimum of 24 hours in advance of the presentation;
 - b. Noted that the theme for the next ASHRAE meeting (Long Beach, CA) is 'Natural Ventilation' and for the winter 2008 meeting in New York – 'Safe & Healthy Buildings';
 - c. Noted that ASHRAE is continuing to emphasize the need to incorporate 'bells & whistles' (graphics, links, animations, calculation programs, etc.) into the digital version the Handbook chapters on CD-Plus;



- d. TC3.6 has been asked to update and/or add to the ASHRAE FAQ document (ID18) that asks: How does ASHRAE recommend that cooling towers be cleaned to avoid Legionellosis?

Motion was made to remove the reference to ASHRAE's outdated "Position Statement" on Legionellosis currently used in the FAQ document. Motion was seconded and Passed 14-0-0.

- V. **Purpose & Scope** – Paul Lindahl led a discussion on the new wording for the Scope & Purpose statement for TC3.6.

Motion was made to approve the Purpose & Scope statement for TC3.6 as amended to read: This technical committee is concerned with water treatment for building water systems (except sewage drainage systems) and the impact of water treatment on building operations and maintenance, water and energy efficiency, human health, and water resource conservation in the application of these systems. **Motion was seconded and Passed 14-0-0.**

- VI. **Membership Report** – In Dave Geary's absence, Chairman Lindahl reviewed the current membership roster for TC3.6 and the proposed roster for 2008 that goes into effect after the summer meeting in Long Beach (2007) – noting the following:

- a. Roster is available on the ASHRAE website as well as on TC3.6's webpage;
- b. TC3.6 currently has 15 regular voting members, 2 international voting members and 7 corresponding members for a total of 24 members;
- c. TC3.6 is scheduled to have 16 regular voting members, 2 international voting members and 14 corresponding members for a total of 32 members in 2008.
- d. Paul announced that Mike Adams would be the new handbook subcommittee chair as Bill Pearson assumes the role of TC3.6 Chair and that Mike Patton will serve as the new Vice-Chair, as well as secretary for TC3.6.

- VII. **Handbook Subcommittee Report** – Bill Pearson

- a. Bill noted that he missed the TC3.6 handbook (and other) subcommittee meetings on Sunday due to a schedule conflict with the Chair's Training Workshop he attended. Bill then gave a short report on the current status of the handbook chapter, noting the planned time-line for revision was still well ahead of ASHRAE deadlines for the next hard-copy printing of the handbook in 2011.
- b. Bill noted, with his transition to chair of TC3.6 after the summer meeting, that he was transitioning the handbook subcommittee chair to Mike Adams and that he and Mike have planned to meet in Raleigh as soon as feasible (Feb/March) to effect such, as well as to rough-out a proposed format for the handbook chapter revision.
- c. The "Handbook Improvement" process by ASHRAE was again noted: that a major emphasis is being made on the co-production (and co-existence) of the written handbook and the CD-Plus handbook – particularly, the opportunity and need that the digital version of the HB (CD-Plus) have "Bells & Whistles" – i.e., dynamic graphics, spreadsheets, calculations, illustrations, links to websites, etc.



- d. Discussion/questions followed as to what will/should be in the handbook chapter both content-wise and, for the CD-Plus version, digital-wise. Non-chemical treatment was discussed in particular. Bill noted that changes/edits to this section of the handbook, to the exclusion of anything else, were made and approved by TC3.6 at the ASHRAE meetings in Nashville (June 2004) – and that the ASHRAE process of getting those changes into the CD version while, unfortunately, not as timely as we expected, has been done. Bill also noted, again, that the handbook subcommittee does have the drafts on a few handbook sections submitted by members – and they are yet to be fully reviewed, edited or approved till a chapter format is adopted.

Motion was made by Charlie Sanderson (included in minutes per his request) to remove from the current TC3.6 handbook chapter, under Non-chemical Methods, the complete first sentence of the paragraph stating: Results of side-by-side comparative tests with conventional water treatment have been mixed.; and the last part of the last sentence of that same paragraph stating: and the necessary precautions to consider when applying these systems. Motion was not seconded.

Further discussions per above (d.) followed and Tim Keane (included in minutes per his request) stated (in paraphrase): Sections of the current handbook chapter were read to the committee by Mark Hodgson and Bill Pearson that discuss limitations of (chemical) water treatment with regard to corrosion, deposition and biological control – and that elimination of conditions on Non-chemical Methods as listed (in the chapter) would bias NCD's over water treatment.

Motion was made that the TC3.6 Handbook Chapter will endeavor to include balanced and unbiased information on all forms of water treatment, to the exclusion of none, per peer-reviewed documentation. Motion was seconded and passed 14-0-0.

VIII. Research Subcommittee Report – Sarah Ferrari

- a. Noted that ASHRAE has a low “inventory” of research projects at present and that the budget is there for “good” projects.
- b. RP1361 (Non-chemical bio-control) is approved to go out for bid – but, the need for more (better) specs on equipment design and a realistic increase in funding for this type of project was discussed. It was recommended that \$180k verses \$120k was more in order for this type of project.
- c. RP1307 (tower fill removal vs. good water treatment for LB control) and the failure/s (difficulty) of it were discussed. The project ran out of time and money – and the PMS voted to cut off the project, move on and look to RAC for guidance. Much discussion followed on the project's (continued) merit and how best to re-bid it.

Motion was made to re-bid RP1307 with milestone (significant) changes to the specifications. Motion was seconded and after a great deal of discussion, the motion was withdrawn by the motion-maker.

Motion was made to table any action on RP1307 till a later date and after reevaluating the cooling tower industry position on the need for such research. Motion was seconded and passed 14-0-0.



- d. RTAR for the monochloramine joint project w/CDC (“Evaluation of monochloramine disinfection of a hospital service water system on LB colonization and incidence of healthcare-associated LD”) was reviewed.

Motion was made to approve the monochloramine RTAR. Motion was seconded and passed 13-0-0.

- e. TC3.6 Research LRP (see attachment)

IX. Program Subcommittee Report – Tim Keane

- a. Tim reviewed the EHC (Co-Cognate w/TC3.6 on SPC188) report by Sidney Parsons to co-sponsor a seminar for the Long Beach meeting with Mike Patton serving as co-moderator for TC3.6 – along with Sidney Parsons for EHC.
- b. Suggestion and discussion that TC3.6 do a Forum in Long Beach on “Water Reuse Opportunities for Sustainable Buildings” and follow-up with a Seminar on it at the winter (2008) ASHRAE meetings in New York. Jon Cohen volunteered to moderate the Forum and the Seminar.
- c. Reported on the “Green Water Systems” Forum in Dallas – that, while the attendance was smaller than expected, there was good interest and positive responses to it; and that it still should be considered as a Seminar for New York. Tim Keane would moderate the seminar.

Motion was made to approve the programs for Long Beach and New York as presented by Tim Keane. Motion was seconded and passed 13-0-0.

- d. Reported that he and Barry Fields were still researching the practical application of field testing for bacterial monitoring for system microbiological control and LB control – for a possible future Forum or Seminar by TC3.6.

X. Other

- a. With the meeting running overtime, it was quickly noted that the TC3.6 web site is alive and well and that TC3.6 webmaster, Frank Morrison, had nothing new to report. He was thanked for his continued work as TC3.6 webmaster.
- b. The next committee meeting will be in Long Beach, CA and is expected to be per the regular scheduling of TC3.6 on Tuesday – June 26, 2007.

XI. Adjourn. Motion was made to adjourn the meeting. Motion was seconded and passed 13-0-0.



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Appendix 1. TC3.6 Sponsored events at Dallas'07 meeting

- ▶ **Forum 6:** “Practical Approach to Green Water Systems: Avoiding Unanticipated consequences” – Moderator: Tim Keane.

ASHRAE TC 3.6
 Long Range Research Plan
 SLF 1/28/07

TC Rank	Topic	Status / Comments
	WS 1361. "Biological Control in Cooling Water Systems using Non-Chemical Water Treatment Devices"	To go out for bid spring 2007
1	Applications for Monochloramine as Supplemental Treatment within Building Water Systems	RTAR submitted Jan 2007 for review at summer meeting. Joint project with CDC. Liability issues were raised as concern in Dallas. B. Fields to investigate.
	RTAR "Impact of Supply Water Filtration on Building Water Systems"	SLF to discuss the possibility of resubmission with RL if TAC accepts TC scope change (as proposed in Dallas).
NP	ATP: What is it, What value, How best used	Perhaps best as inclusion in Handbook and/or as a program.
NP	Develop guidance statements for monitoring Legionella using the plethora of new rapid tests.	B. McCoy to develop this idea further. Proposal? Research required? Perhaps best as a Seminar
Future Topics		
	On-line, Real-time Biological Monitoring	Was Forum topic for winter 2006 meeting: "Is realtime biological monitoring for cooling water systems feasible?" On hold for now-currently too \$\$.
	Applications for Monochloramine in Cooling Water Systems	Recognize volatility. Perhaps inject just prior to condenser.
	How Does the Level of Suspended Solids Affect Fouling ?	Effect on fill pack, enhanced condenser tubes...Address corrosion, scale, biological activity.
	What are the increased microbiological risks associated with use of gray water in cooling water systems?	
	Investigate Bio-active Filtration	
	Ponder controls and automation.	

NP = Nothing specific yet proposed

NWS = "Not Within Scope". No value assumed / Scope too large / Outside of 3.6 scope.

Note: Only items specifically proposed as research and with a "champion" are ranked

Deadlines for RTAR and WS submission are on May 15, Sept 1, Dec 15

ASHRAE Technical FAQ

ID 18

Question How does ASHRAE recommend that cooling towers be cleaned to avoid Legionellosis?

ASHRAE's recommendations regarding Legionellosis are contained in the [ASHRAE Guideline 12 -2000](#), Minimizing the Risk of Legionellosis Associated with Building Water Systems, and to a lesser extent in the ASHRAE Handbooks.

Quick Answer ASHRAE recommends that cooling towers should be designed, installed, operated, and maintained in accordance with [ASHRAE Guideline 12 - 2000](#) to minimize the risk of dissemination of legionella bacteria. The guideline includes recommendations for cleaning and chlorination.

ASHRAE also offers the Legionellosis [Position Document](#). This is available to download from our web site at www.ashrae.org.

The guideline may be purchased on-line at our website, www.ashrae.org or by calling 1-800-527-4723 in the USA and Canada or 1-404-636-8400 worldwide.

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ASHRAE Pubs [ASHRAE Guideline 12 -2000](#), Minimizing the Risk of Legionellosis Associated with Building Water System

Topic References Legionellosis, water systems, cooling towers

	Cognizant ASHRAE Committees	Refer to Organization
1	TC 3.6	
2	EHC	
3		
4		
5		

ASHRAE Technical FAQ – (modified per TC3.6 approval 1/27/2007)

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