

DISTRIBUTION

ALL MEMBERS OF TC/TG/TRG

TAC CHAIR: E. Groll/P. Graef

TAC SECTION HEAD: B. I. Kilkis/D. Brundage

LIAISONS:

Program: J.H. Nix /L. Jackins

ALI: J. DeBullet

Handbook: D. Meredith / D. Fitts

RAC: L. Markel

Standards: J. Kohler

TEGA: J. W. Gartner

Special Pubs: L. Fisher

MANAGER OF RESEARCH AND TECHNICAL SERVICES: M. R. Vaughn

MANAGER OF STANDARDS: C. B. Ramspeck



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MEETING MINUTES ASHRAE TC 6.7 – SOLAR ENERGY UTILIZATION Annual Summer Meeting – June 27, 2005 Quebec City, Quebec, Canada

I. CALL TO ORDER, MEETING AGENDA, AND MEETING MINUTES

Meeting called to order at 13:25 by Chair Mark Hertel. The meeting began 25 minutes late due to a typographical error in the meeting room location as printed in ASHRAE Program. A quorum was achieved with five of nine voting members in attendance. In addition to the chair, voting members present were: John Brown, Andrew Chiasson, Andy Lowenstein, and Marija Todorovic (international member). Absent members were: Tim Merrigan, Janice Means, Christian Vachon, and Cenk Yavuzturk. (See Sections 2.2.3 and 5.1 of the *ASHRAE Manual of Procedures for Technical Committees, Task Groups, and Technical Resource Groups* for quorum requirements.)

John Brown moved and Andrew Lowenstein seconded to accept the minutes (with corrections) from the Winter 2006 meeting in Chicago, IL. Corrections included amending a typographical error in the meeting location. Motion passed 5-0-0.

II. LIAISON REPORTS FROM OTHER COMMITTEES

ALI (Henry Healey). No Report. Henry Healey will give a short course at the Winter 2007 meeting in Dallas.

TAC (Birol Kilkis): No Report.

RAC (Larry Markel): Larry Markel was present at this TC meeting. Mark Hertel attended the RAC meeting. An outstanding issue has been a lack of response from Steve Strong of Solar Design Associates regarding the final report for RP 1109, even after numerous notifications. Based on the recommendation of Larry Markel, it was decided to file a “non-performing PI” form with ASHRAE, which will essentially eliminate Solar Design Associates from further ASHRAE research. The TC also questioned the relevance of the research results this long after the project had been initiated.

Handbook (Dave Meredith, Applications; Doug Fitts, Systems and Equipment): A draft of the chapter revision for the Systems and Equipment Handbook is targeted for the Winter '07 meeting in Dallas. Doug Fitts emphasized the use of example problems.

Other TCs: No reports.

LEED Energy and Atmosphere TAG (Bion Howard): No report.

American Solar Energy Society (ASES): No report.

American Society of Mechanical Engineers (ASME): Agami Reddy announced a call for papers for “Energy Sustainability 2007”, which is a conference held immediately after the ASHRAE summer meeting in Long Beach, CA.

Standards Liaison: Jay Kohler was present at this TC meeting, and reminded the TC that Standard 109 was up for renewal. Brian Dougherty, Standards Subcommittee chair, who was absent, sent an email prior to this TC meeting with a request to poll attendees to see if anyone has an opinion on whether we should revise, reaffirm, or withdraw ASHRAE Standard 109. The TC will conduct an email ballot in advance of the Dallas meeting on this question.



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Regarding Standard 93, a TC vote had been submitted to ASHRAE, and there has been no response as of this meeting.

III. CHAIR'S REPORT

Chair Mark Hertel reported on matters presented at the TC Chairs meeting/breakfast.

The ASHRAE strategic plan is now in place, and is driving numerous changes which TC 6.7 is "in the thick of" due to emphasis on sustainability. The Research Plan is a separate document, which members should review, as it may be used to shape future RTARs.

ASHRAE is urging more nominations for the Hightower Award. ASHRAE is also offering to send letters of appreciation to employers, signed by the ASHRAE President, acknowledging efforts of volunteers.

The TAC/Handbook meeting was combined with the TC chairs' meeting as a "rally" to move forward on "thinking outside the book", which was aimed at improving the ASHRAE Handbooks and shaping what the future handbooks will look like and what they will provide to members. The long-term direction of the Handbooks is to host them on the world-wide web. However, this raised a number of questions regarding: use of the Handbooks as a legal document, use of the Handbooks during PE or other exams, and lost revenue of the Handbooks when sold to libraries and other institutions.

IV. SUBCOMMITTEE REPORTS

A. HANDBOOK SUBCOMMITTEE – MARK HERTEL

TC 6.7 is responsible for two handbook chapters: Chapter 33 of the HVAC Systems and Equipment Handbook, "Solar Energy Equipment," and Chapter 33 of the HVAC Applications Handbook, "Solar Energy Use."

Mark Hertel reported that revision of Chapter 33 of the Applications Handbook was submitted on time, and galley proofs are expected sometime in August-September. A final TC vote on the galleys will be needed at that time.

The Handbook Subcommittee met Monday evening, Jun. 26, 2006, and went page-by-page through Chapter 33 (to be re-numbered to Chapter 34) of the Systems and Equipment Handbook. Revision of this chapter is due for submittal on March 22, 2007. Mark Hertel reported that the main changes will include the addition of information regarding solar photovoltaic systems and equipment by Charlie Cromer, and Mark Hertel will add/remove references as necessary. A first draft for review is expected by September-October, and a final draft will be available at the Dallas meeting, or hopefully 30 days prior.

B. RESEARCH SUBCOMMITTEE – TIM MERRIGAN

The Research Subcommittee met Monday evening, Jun. 26, 2006.

Tim Merrigan, Research Subcommittee Chair was absent. Andy Lowenstein discussed the status of RP 1428 "The Direct Regeneration of Desiccants with Solar Energy". Andy had addressed RAC's comments on the returned work statement, and Tim Merrigan was in agreement. The May 15 deadline for re-submittal of the work statement to RAC had passed, so the goal was to submit it by the August 15 deadline. Charlie Cromer and Larry Markel reminded the TC that the work statement would need a re-vote if significant changes had been made.

Andy Lowenstein met with the chair of TC 8.12, and there was interest in co-sponsoring RP 1428. Larry Markel recommended that it would look more favorable to RAC if TC 8.12 provided a committee vote on their decision to co-sponsor RP 1428.



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Ram Narayanamurthy of Ice Energy solicited TC 6.7's interest in co-sponsoring a research project regarding improving the economics of solar PV systems in cooling-dominated climates. The nature of the project is to combine solar PV systems and ice storage systems in such a way as to optimize peak demand. Ram will develop an RTAR in addition to example calculations showing preliminary benefits of the proposed system.

C. PROGRAM SUBCOMMITTEE – CENK YAVUZTURK

Cenk Yavuzturk was absent, but had provided a telephone report to Mark Hertel prior to this meeting.

Cenk Yavuzturk had been in contact with Ron Larson about an ASES-sponsored session. A seminar for the Dallas meeting is being discussed, and possibly a Transactions Session for Long Beach. Christian Vachon may also re-submit the seminar program that was not selected for this meeting in Quebec City. No programs are yet in the works beyond the Long Beach meeting.

Don Collier, chair of the ad hoc committee for the Solar Decathlon was present at this TC meeting, and there was some discussion as to how to incorporate the Solar Decathlon results into a future program. Rather than selecting four presenters, Larry Markel suggested inviting all 20 participants to a poster session at the New York City meeting, Winter '08.

D. STANDARDS SUBCOMMITTEE – BRIAN DOUGHERTY

The standards subcommittee report is provided below.

Charlie Cromer offered to contact ASHRAE Standards Committee regarding the status of Std 93. Bede Wellford offered help as needed. A TC vote could not be made at this time regarding Std 109, as some voting members had left, consequently leaving the TC without a quorum.

E. WEBMASTER – SVEIN MORNER

Svein Morner was absent, but Mark Hertel reported that after July 1, he will have access to the official roster. Member contact information can be viewed on the TC web page if desired by members. The TC is considering scanning and posting some out of print documents, and possibly providing a link to documents on the SRCC web site. A "members only" area to post information is also being considered.

F. AWARDS – JANICE MEANS

No report.

V. Membership

Mark Hertel reported that the membership roster will be updated by the Dallas meeting.

VI. OLD BUSINESS:

None.

VII. NEW BUSINESS

Don Collier, chair of the ad hoc committee for the Solar Decathlon announced that 20 schools had been selected to participate in the '07 solar decathlon. ASHRAE will be a title sponsor, but no financial support is available, and consequently, an "Ask the Professional" type of program is being implemented. Volunteers from TC 6.7 were solicited to address questions from Solar Decathlon participants. Andy Lowenstein volunteered to address inquiries regarding solar cooling, Charlie Cromer volunteered to address inquiries regarding solar PV, and Costas Balaras volunteered to field inquiries in the areas of solar thermal and PV.

VIII. ADJOURNMENT

The meeting was adjourned at 15:25 PM.



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Standards Subcommittee Report
ASHRAE TC 6.7 Solar Energy Utilization
2006 Annual Meeting – Quebec City
Standards Committee Liaison to TC 6.7: Jay Kohler

Std 93-2003 *MOT to Determine the Thermal Performance of Solar Collectors*

The current standard is a reaffirmation of the 1986 publication and its latest ANSI approval occurred on April 22, 2003. At the January 2006 meeting in Chicago, TC 6.7 recommended to revise this standard and to have Charlie Cromer chair the new SPC. Both committee votes were 7-0-0-2 (CV with one absentee being an international member). The two TC 6.7 votes will be considered by the ASHRAE Standards Committee at the Annual Meeting in Quebec City.

Std 95-1987P¹ *MOT to Determine the Thermal Performance of Solar Domestic Water Heating Systems*

SPC Chair: Tim Merrigan

SPC Liaison: Roger Hedrick

Co-cognizant TC: 6.6 (Service Water Heating)

Relatively new ASHRAE procedures allow SPC 95P to move forward with its plans to conduct a Modified adoption of ISO Standard 9459-1: 1993, “Solar heating – Domestic water heating systems – Part 1: Performance rating procedures using indoor test methods.” The ISO standard will replace ASHRAE Standard 95. ASHRAE staff has confirmed that SPC 95 does not have to be repopulated in order for the modified adoption to begin. The August 1995 vote (5-0-1) to recommend the adoption is still viewed as acceptable. New SPC 95 members will be needed if comments are received during the public review. ASHRAE staff has generated a Word version of the ISO standard. Brian Dougherty is presently making non-substantive editorial corrections to the draft along with the one substantive change recommended by the original SPC 95 members: changing Annex A, “Test day specifications”, from being classified as normative to being classified as informative. The document will be forwarded to SPC 95 Chair Merrigan for a final review and then submitted to ASHRAE staff for public review.

Std 96-1980 (RA 89)P¹ *MOT to Determine the Thermal Performance of Unglazed Flat-Plate Liquid-Type Solar Collectors*

SPC Chair: James Huggins

SPC Liaison: Roger Hedrick

SPC 96P plans to consider an identical or modified adoption of ISO Standard 9806-3: 1995, “Test methods for solar collectors -- Part 3: Thermal performance of unglazed liquid heating collectors (sensible heat transfer only) including pressure drop” in lieu of, or in addition to, revising ASHRAE Standard 96. As of the last meeting in Chicago, SPC 96P consisted of one member, the chair, whereas a minimum committee size of 5 is required. Since then, five individuals have volunteered to serve on the committee and their memberships will be considered by the ASHRAE Standards Committee at the Annual Meeting in Quebec City.

ASHRAE and non-ASHRAE members interested in participating on SPC 96P must complete the “Application for PC Membership” that is available at <http://www.ashrae.org/template/TechnologyLinkLanding/category/1638>. Individuals also need to generate/update their on-line biographical information, including providing entries for conflict of interest and bias, by accessing <http://xp20.ashrae.org/bio/>. If you have questions, contact the Secretary to the ASHRAE Manager of Standards (404-636-8400, ext. 1136 or standards.section@ashrae.org) or the SPC 96P chair.

¹ *NOTE: Standards 95 and 96 are designated as “Proposed” rather than as a “Revision” due to exceeding the maximum time frame in which a standard may retain the ANSI designation.



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TC 6.7 Standards Subcommittee Report 2006 Annual Meeting – Quebec City

Std 109-1986 (RA 03) *MOT to Determine the Thermal Performance of Flat-Plate Solar Collectors Containing a Boiling Liquid*

The current standard is a reaffirmation of the 1986 publication and its latest ANSI approval was gained on April 22, 2003. TC 6.7 has been asked to recommend whether to revise, reaffirm, or withdraw (R/RA/W) this standard. The review by ASHRAE staff shows that the standard contains a few outdated references and the units format, ideally, should be updated to SI rational first. Because updating these references is viewed as likely to cause substantive changes, the standard cannot be reaffirmed. A revision could be relatively minor but would require the creation of a Standards Project Committee (SPC). In Chicago, TC 6.7 postponed action on how to proceed with this standard. The R/RA/W recommendation will be considered at TC 6.7's next meeting Quebec City with an email ballot planned prior to the Winter 2007 meeting in Dallas.

Std 125-1992 (RA 00) *MOT Thermal Energy Meters for Liquid Streams in HVAC Systems*

Cognizant (Lead) TC: 6.1, Hydronic and Steam Heating Equipment and Systems

Co-cognizant TC: 6.7

The reaffirmation public review was completed in late June 2005. No comments were received. The document was approved for publication by the ASHRAE Board of Directors on January 22, 2006. Since its publication, an errata was generated to address errors found by a users of the standard. This errata may be downloaded at <http://www.ashrae.org/template/TechnologyLinkLanding/category/1685;jsessionid=aaa-VVvDkc2pTs>.

Canvass Ballots - None

ISO Technical Committee 180 (Solar Energy)

Subcommittee 4 (Systems – Thermal Performance, Reliability, and Durability)

ISO TC 180 Secretariat: Australia

ISO TC180/SC4 Secretariat: ASHRAE

ASHRAE holds the secretariat for Subcommittee 4 within TC 180, Systems – Thermal Performance, Reliability and Durability. Jim Huggins serves as the SC 4 chair. ISO TC180/SC4 met on 5 April 2006 in Las Palmas de Gran Canaria, Spain.

1. ISO Standard 9459-1: 1993, “Solar heating – Domestic water heating systems – Part 1: Performance rating procedures using indoor test methods”

Cognizant SC: 4

At their April 2006 meeting in Spain, SC4 passed Resolution 148 which recommended to SC5 that the relevant solar simulator specifications within Standard 9459-1 be transferred to ISO standard 9806-1, “Test methods for solar collectors – Part 1: Thermal performance of glazed liquid heating collectors including pressure drop.” If implemented, SC4 would then act to ballot ISO 9459-1 for withdrawal, dependent upon a review of ISO 9459-1, Clause 4 – Symbols.

ISO document stage code is 90.93 – international standard confirmed.

2. ISO Standard 9459-3: 1997, “Solar heating – Domestic water heating systems – Part 3: Performance tests for solar plus supplementary systems”



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TC 6.7 Standards Subcommittee Report 2006 Annual Meeting – Quebec City

Cognizant SC: 4

This standard was withdrawn by ISO in 2005. At its April 2006 meeting, SC4 passed Resolution 150 that calls for reinstating and revising the standard. Australia agreed to prepare the New Work Item Proposal to implement this resolution and to generate a new draft that is based on an Australian national standard.

3. ISO / AWI 9459-4, “Solar heating – Domestic water heating systems – Part 4: System performance characterization by means of component tests and computer simulation”

Cognizant SC: 4

The program has been reinstated and will use ENV/CEN 12977-2, “Thermal solar systems and components – Custom built systems – Part 2: Test methods” as the basis for the ISO document. Consideration will also be given to referencing the Australian standard AS 4234, “Solar water heaters – Domestic and heat pump – Calculation of energy consumption.” Jim Huggins is the project leader. Nominations for experts from the participating countries are being generated. At its April 2006 meeting, SC 4 passed Resolution 152 that calls for the work of CEN/TC 312/WG3 [available as section 6.3.1 in the 2001 edition of ENV 12977-3] to be considered when writing ISO/CD 9459-4.

ISO document stage code is 20.00 – new project registered in TC/SC work program.

4. ISO/CD 9459-5, “Solar heating – Domestic water heating systems – Part 5: System performance characterization by means of whole-system tests and computer simulation”

Cognizant SC: 4

A 5-month ballot at the Draft International Standard (DIS) stage closed on 6 February 2006. The ballot passed with 12 of 13 P-members voting in favor of the DIS revision; the US was lone disapproving vote. Comments received from the DIS ballot were addressed at the SC4 meeting on 5 April 2006. John Harrison, of the Florida Solar Energy Center (FSEC), was the US expert in attendance. The Final Draft International Standard (FDIS) ballot of 9459-5 is planned for distribution prior to the end of August.

ISO document stage code is 40.60 – Voting Summary Dispatched.

5. ISO/DTS 11924, “Solar heating – Domestic water heating systems – Test methods for the assessment of protection from extreme temperatures and pressures”

Cognizant SC: 4

The current document is being revised with the goal of publishing it as an ISO Standard. At its April 2006 meeting, SC4 agreed to include information in Annex C of EN 12976-2, “Thermal solar systems and components – Factory made systems – Part 2: Test methods,” within the draft revision of ISO/DTS 11924. ISO document stage code is 20.99 – working draft approved for registration as a committee draft.

6. ISO Standard 9806-3: 1995, “Test methods for solar collectors – Part 3: Thermal performance of unglazed liquid heating collectors (sensible heat transfer only) including pressure drop”

Cognizant SC: 5 (Collectors and other components)

ISO document stage code is 90.93 – international standard confirmed.

7. ISO/TR 12596:1995, “Solar heating – Swimming-pool heating systems – Dimensions, design and installation guidelines.”

Cognizant SC: 4

At its April 2006 meeting, SC4 passed Resolution 151 that calls for publishing an ISO Publicly Available Specification (PAS) that is based on the previously withdrawn technical report, ISO/TR 12596:1995.

Report Submitted By: Brian Dougherty

TC/TG Activity Feedback Form

Please provide feedback on your TC/TG activities and return this form to your Section Head by email or drop off a printed copy in the Section Head's mailbox folder outside the ASHRAE Headquarters Room by Tuesday night 9:00 pm.

From TC 6.7	Committee Name: <i>SOLAR ENERGY UTILIZATION</i>
	Chair: <i>MARK HERTEL</i>

Meeting was Held	(Day) <i>TUESDAY</i>	(Date) <i>JUN. 27, 2006</i>
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Membership		
	Number Present	Total Number on Committee
Voting Members	<i>5</i>	<i>9</i>
International Members	<i>1</i>	<i>1</i>
Corresponding Members	<i>3</i>	<i>49</i>
Visitors and Guests	<i>4</i>	

Handbook Responsibilities *		Standards Responsibilities *	
Volume and Chapter (number only)	Next Revision Due Date	Standards Number (number only)	Next reaffirmation date
<i>SYS. & EQUIP. 33</i>	<i>MAR. 22, 2007</i>	<i>95-1987</i>	
<i>APPLICATIONS</i>	<i>MAR. 22, 2010</i>	<i>96-1980</i>	
		<i>125-2002</i>	
		<i>93-2003</i>	
		<i>109-1986</i>	

Program Activities * at this Meeting		
Transactions	Seminar	Forum
<i>No. 11</i>		

Current Research Activities *		FAQs Responsibilities *	
Research Project (number only)	PMS meeting held (yes/no)	FAQ number (number only)	Last time reviewed
<i>1109</i>		<i>79</i>	
<i>1428</i>			

Does Committee have Web Site on ASHRAE Server? YES

If so, is Web Site up to date? YES

Any requests of the Technical Activities Committee ?